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U. S. DEPARTMENT OF LABOR
JAMES J. DAVIS, Secretary
BUREAU OF LABOR STATISTICS
ETHELBERT STEWART, Commissioner

MONTHLY LABOR REVIEW

Vol. 27, No. 5



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SPECIAL FEATURES IN THIS ISSUE

- Stability of employment in the iron and steel industry, p. 1
- Union wage rates in 1928, p. 10
- Average construction cost of dwellings in large cities, p. 27
- Industrial research work by organized labor, p. 4
- Legal status of group life insurance for labor unions, p. 108

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**Fifteenth annual meeting of the International Association of Public
Employment Services. Bulletin No. 478.**

**Activities and functions of a State department of labor. Bulletin
No. 480.**

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Beneficial activities of American trade-unions. Bulletin No. 465.

Settlement for accidents to American seamen. Bulletin No. 466.

Labor legislation of 1927. Bulletin No. 470.

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Contents

Special articles:	Page
Stability of employment in the iron and steel industry	1-3
Industrial research work by organized labor	4-9
Union wage rates in 1928	10-18
International Association of Industrial Accident Boards and Com- missions: Its accomplishments, 1914 to 1928	19-26
Average construction cost of dwellings in large cities of the United States	27-30
Industrial relations and labor conditions:	
Activities and functions of a State department of labor	31-34
Massachusetts—Report of minimum wage commission for 1927	34
An Australian view of industry in the United States	35-37
India—Factory conditions in Burma in 1927	37
Small-claims courts:	
One year's operation of Des Moines conciliation court	38-40
Women in industry:	
Effects of labor legislation on employment opportunities for women ..	41-52
India—Regulation of work of women in mines	52
Child labor:	
Great Britain—Work of advisory committees for juvenile employ- ment	53-55
Japan—Prohibition of child labor in mines	55
Industrial accidents:	
Accidents at metallurgical works in the United States in 1926	56, 57
Meeting of seventeenth annual safety congress at New York	57, 58
Health and industrial hygiene:	
Effects of inhalation of certain lacquer solvents	59, 60
Hazard of automobile gas in streets and repair shops of large cities ..	60, 61
Health hazards in chromium plating	61-63
Industrial posture and seating	63-65
Increased longevity in the printing trades	65
Family damage when a wage earner dies	66
Bolivia—Legislation on occupational diseases	67
Great Britain—Report on silicosis in the pottery industry	67-69
Workmen's compensation:	
The small plant and workmen's compensation coverage, by Ethelbert Stewart	70-76
Meeting of International Association of Industrial Accident Boards and Commissions, 1928	76-78
Employers' liability for accidents within the national parks	78, 79
Ohio—Occupational diseases	79
Recent workmen's compensation reports—	
New York	79, 80
Pennsylvania	80-82
Death of F. B. Lord of California Industrial Accident Commission ..	82
Labor laws and court decisions:	
Nonunion labor on Federal public works	83-85
Present status of anti-injunction bill in Congress	85-89
Tennessee child labor law liberally construed	89, 90
Ecuador—Preliminary measures for labor legislation	90
Cooperation:	
Development of building and loan associations, 1926-27	91, 92
Canada—New developments in cooperation	92, 93
Cooperation in Latin countries	93-98

Workers' education and training:	Page
Apprentice training on an important railroad system.....	99-101
Report of International Typographical Union education bureau....	101-103
Teaching home making to woman wage earners.....	103, 104
Massachusetts—State education for adult workers.....	104-107
Wisconsin—Adult workers' education.....	107
Group insurance:	
Legal status of issuance of group life-insurance policies to labor unions, by Edwin E. Witte.....	108-111
Labor organizations and congresses:	
Adoption of old-age pension by carpenters' union.....	112
Widows' and orphans' colony to be established by printing pressmen.	112, 113
Bookbinders' action concerning mechanization of their trade.....	113
Industrial disputes:	
Strikes and lockouts in the United States in September, 1928.....	114-117
Conciliation work of the Department of Labor in September, 1928.	117-119
Wages and hours of labor:	
Hours and earnings in the manufacture of batteries and small motors, 1927.....	120-130
Wages and hours of labor in woolen and worsted goods manufacturing, 1928.....	131-137
France—Wages in the metal industries in 1928.....	138
Japan—Minimum wage for seamen.....	139, 140
Trend of employment:	
Employment in selected manufacturing industries, September, 1928.	141-155
Employment in cotton-goods mills, 1923 to 1928.....	152-155
Employment in public utilities establishments, September, 1928.....	155, 156
Employment in wholesale and retail trade establishments, September, 1928.....	156, 157
Employment on steam railroads in the United States.....	158, 159
Effect of "talking movies" upon employment of musicians and of actors.....	159, 160
Convention of International Association of Public Employment Services.....	160, 161
Changes in employment and pay rolls in various States.....	161-164
Japan—Unemployment research bureau.....	165
Sweden—Census of unemployment in 1927.....	165-170
Wholesale and retail prices:	
Retail prices of food in the United States.....	171-188
Retail prices of coal in the United States.....	188-191
Index numbers of wholesale prices in September, 1928.....	191-193
Revised index numbers of wholesale prices, 1890 to 1927.....	193, 194
Labor awards and decisions:	
Awards and decisions—	
Railroad telegraphers—Midland Valley Railroad Co., and Kansas, Oklahoma & Gulf Railway Co.....	195
Immigration and emigration:	
Statistics of immigration for August, 1928.....	196, 197
Publications relating to labor:	
Official—United States.....	198
Official—Foreign countries.....	198-200
Unofficial.....	200-203

This Issue in Brief

Regularity of employment in the iron and steel industry has shown marked improvement in recent years. Fluctuations in employment due to seasonal and other causes have been smothered out in most of the plants to such an extent that the better managed ones now show very little change in number of employees from month to month. Page 1.

A continued upward trend in union wage rates in 1928 is shown by the recent survey of the United States Bureau of Labor Statistics, the average rate for all trades being \$1.159 in 1928 as against \$1.154 in 1927. Of the 75 individual time-work trades covered, 53 showed increases in average wage rates in 1928 as compared with 1927, while the remaining 22 showed decreases. During the same period average hours of labor decreased about 0.5 per cent and in 1928 10.6 per cent of the trade-union members were working on a schedule of 40 hours or less per week. Page 10.

The value of research is more and more being recognized by labor organizations. Many unions now have within the organization a department whose business it is to gather the data necessary in bargaining with the employers, such as cost of living figures, wage rates in their own and comparable industries, the economic condition of the industry, etc. In order that the membership may be kept informed, a number of labor periodicals have a regular department which is devoted to the latest developments in methods and machinery in the trade. A few unions are even carrying on schools or courses to teach apprentices and journeymen the best methods in the trade, and other unions are cooperating with employers or public school authorities in providing educational facilities for their members. Page 4.

The activities of the various State departments of labor extend over a very wide field. For example, in an important industrial State like New York the work of the department of labor covers enforcement of the labor law, administration of the workmen's compensation act, accident prevention work, placement of workers, settlement of industrial disputes, etc. As an illustration of the activities and functions of a State labor department, the United States Bureau of Labor Statistics has just published (as Bulletin 479) a course of lectures on the work of the New York department. Page 31.

Laws regulating the day-time working hours of women do not seem to have limited their opportunities for employment to any appreciable extent, according to the results of a survey by the United States Women's Bureau of the effects of special legislation regulating the employment of women. The effects of night-work laws on women's employment has been somewhat more pronounced. Summary data on these and other phases of the investigation are given on page 41.

The 1928 survey of wages and hours of labor in woolen and worsted goods manufacturing, made by the Bureau of Labor Statistics, shows that average hourly earnings, in all occupations combined, increased from 49.1 cents in 1926 to 51.4 cents in 1928, and average full time

weekly earnings from \$24.21 to \$25.34. Average full-time hours per week of male employees showed a slight increase over 1926, being 49.4 in 1928 as compared with 49.3 in 1926; those of female employees decreased slightly—from 49.3 to 49.2. Average hourly earnings in 1928 in the individual occupations ranged, for males, from 30.3 cents for doffers to 82.1 cents for loom fixers, and for females, from 28.4 cents for doffers to 60.5 cents for weavers. Page 131.

Average hourly earnings in 1927 of employees engaged in the manufacture of dry-cell batteries were 49.2 cents, of storage batteries, 69.1 cents, and of fractional horsepower motors, 58.6 cents, as shown by the study of wages and hours of labor in these industries by the Bureau of Labor Statistics. Average full-time hours per week were 49.4, 48.6, and 48.6, respectively. Page 120.

The cost of construction of residences varies very greatly in different cities, according to information obtained in the building-permit survey made by the Bureau of Labor Statistics for the first half of 1928. A comparison of costs in 14 cities having a population of 500,000 or over shows that St. Louis had the lowest average cost (\$3,619) for one-family dwellings, while Washington had the highest average cost (\$8,534). These figures do not include the cost of the land. Page 27.

An old-age pension plan was adopted by the 1928 convention of the United Brotherhood of Carpenters and Joiners. The plan will go into effect April 1, 1929, providing a pension of \$15 per month. This is the eleventh national labor organization to adopt a pension scheme. Page 112.

The conciliation or small claims court of Des Moines, which supersedes the old municipal court system in the collection of wage claims, has been in existence one year and apparently has met with considerable success. Probably more than half of the cases formerly handled by the municipal court, with its cumbersome procedure, its juries, and lawyers, are now settled by the conciliation court, without the aid of lawyers or jury, at a cost of \$1 each. Page 38.

The growing use of chromium plating in the manufacture of automobile parts and accessories and other metal objects has focused attention on the hazards to workers from the chromic acid which is the principal constituent of the plating baths. A study of the hazards of the process in a number of plants showed that practically all of the workers actually engaged in plating were affected by the chemical, having either perforations of the nasal septum, ulcerated mucosa, or chrome holes on the hands, while more than half of the total number of persons working in the plating rooms showed the effect of their exposure to the chromic acid. Page 61.

More than 200 courses are now available for adult workers under the Massachusetts university extension scheme. Last year's enrollment was over 37,000, and it seems possible that the registration will reach 40,000 by the end of 1928. A report on the operation of this successful State educational undertaking and the great opportunities it offers is given on page 104.

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Stability of Employment in the Iron and Steel Industry

THIS study is an attempt to measure the degree of regularity of employment in the iron and steel industry and to ascertain whether regularity of employment has improved during recent years.

In this connection it is important to bear in mind that regularity of employment is an entirely different matter from volume of employment. Thus, the total number of employees in a plant may steadily decline from year to year with improving productive efficiency, while within each year the fluctuations in the number of employees, whether due to seasonal or other causes, may progressively diminish, with the result that the employees, though fewer in number, may have more steady work.

This, indeed, seems to be exactly what has happened in the iron and steel industry. Making all due allowance for the possible errors in the present study, the results show beyond question that during the past few years the great majority of the iron and steel plants have stabilized employment in a striking degree.

The basic data for this study are derived from the monthly reports made to the Bureau of Labor Statistics by practically all the important iron and steel plants, as part of the general employment survey made monthly by the bureau and covering more than 11,000 manufacturing plants in various lines of industry. As these reports give only the number of employees of all kinds without separation by occupational groups, the present analysis must disregard occupational differences and treat the employees of a plant as a unit.

The method here employed for the measurement of stability is the same as that adopted in the study of stability of railroad employment published in the August, 1928, *Labor Review*—namely, the relationship of average monthly employment during the year to the number of employees in the month of maximum employment. Thus, if during 1927 a particular occupation had a monthly average of 90 employees and the maximum number in any month was 100, then the stability of employment may be fairly said to be 90 per cent. In other words, if the 100 men needed to fill the positions at the busiest season had no other opportunity for work, then each man would have an opportunity of 90 per cent of full-time employment. Of course, this is rarely quite true, but it is often substantially true; and,

in any case, the method offers a fairly accurate measure of the degree in which a particular establishment has attained a condition of stable employment. On the other hand, failure of an establishment to obtain a good level of stability in one or all occupations must not necessarily be attributed to faulty management. Many factors over which the management has little or no control may affect the stability of employment. Nevertheless, an employment stability of or very near to 100 per cent is the desirable goal.

The method of measuring employment stability just described has been used in this study because it is simple and clear. Somewhat more accurate measures of a mathematical character could be employed, but what they gain in accuracy is more than overbalanced by complexity in computation and explanation.

Results of the Study

THE percentage of full-time employment, computed as described above, has been worked out for 32 iron and steel plants for each of the years 1923 to 1927 and for the 12-month period ending August, 1928, the results being presented in the accompanying table. These 32 plants represent all reporting plants with sufficiently large personnel to make yearly comparisons of value. Collectively they employ about 40 per cent of all wage earners in the industry. The plants are arranged in the table in descending order according to the favorableness of their showing in 1928.

Examination of the employment indexes for the several plants listed on the table shows some very interesting facts:

1. For the 32 plants as a whole regularity of employment showed a marked improvement over the years covered. Thus, the average per cent of full-time employment rose from 88 and a fraction in 1923 and 1924 to 91.2 in 1925 and has ranged around 94 during the past three years.

Still more striking as measuring the improved conditions of employment are the figures at the bottom of the table, showing the great increase in the number of plants with high records of employment regularity during the period of almost six years. Thus in 1923 only 6.7 per cent of all the plants showed an average of 95 per cent full-time employment, whereas by 1928 this percentage had increased to 53.2. Also, in 1923 more than half the plant averages were less than 90 per cent of full-time employment. In 1927 less than one-tenth were below 90.

2. For several individual plants the showing is extraordinarily favorable. Thus for the 12 months ending August, 1928, plants 1 and 2 had a record or more than 98 per cent stability.

Other plants, with not quite so good a record in 1928, showed a strikingly consistent improvement over the 6-year period. Thus in plant 14, the per cent of full-time employment rose from 83.2 in 1923 to 96.2 in 1928 in an almost unbroken line.

Also, it should be noted that six plants (2, 3, 4, 18, 25, and 26) had the excellent record of more than 90 per cent full-time employment for each of the years studied.

PER CENT OF FULL-TIME EMPLOYMENT IN THE IRON AND STEEL INDUSTRY

Plant No.	1923	1924	1925	1926	1927	12 months ending August, 1928
1.....	92.4	82.9	93.1	95.2	89.5	98.3
2.....		97.9	96.8	96.9	93.9	98.1
3.....	91.7	93.6	95.3	95.4	96.5	97.8
4.....	91.8	93.4	94.9	97.2	93.4	97.2
5.....	89.5	79.6	88.3	91.9	97.7	96.9
6.....	86.5	90.1	89.4	92.0	94.4	96.7
7.....		87.9	82.3	94.6	95.6	96.6
8.....	89.6	81.3	94.4	94.6	96.5	96.5
9.....	85.4	88.1	82.8	89.8	91.9	96.5
10.....	91.6	81.4	97.0	95.8	97.9	96.4
11.....	83.9	95.0	96.5	95.5	90.1	96.4
12.....	89.5	84.2	90.1	94.7	87.4	96.4
13.....	84.9	93.6	96.8	91.9	93.5	96.3
14.....	83.2	89.3	88.3	96.6	92.4	96.2
15.....	94.8	96.5	96.2	96.3	89.0	95.7
16.....	87.6	88.6	78.6	91.2	90.3	95.4
17.....	81.7	84.2	92.3	94.3	93.3	95.3
18.....	91.1	93.7	95.0	96.1	96.1	94.9
19.....	88.6	88.5	93.7	96.9	94.9	94.5
20.....	88.6	92.0	95.3	97.5	93.9	94.4
21.....	82.0	92.7	90.0	98.6	96.0	93.0
22.....	94.0	83.3	92.6	93.7	93.8	92.7
23.....	82.7	80.4	81.3	90.1	93.1	92.3
24.....	88.5	89.6	92.3	94.8	95.6	91.9
25.....	94.7	90.0	94.8	96.8	96.0	91.8
26.....	96.1	98.0	98.0	97.5	94.1	91.7
27.....	90.0	80.9	87.8	94.9	91.3	91.5
28.....	91.1	80.2	86.2	90.1	94.5	91.3
29.....	94.5	88.4	90.9	93.1	92.5	90.2
30.....	91.6	92.2	92.1	95.3	95.7	89.8
31.....	95.4	84.2	91.7	89.8	92.9	88.1
32.....	73.1	83.5	84.5	90.0	91.5	83.0
Average.....	88.9	88.3	91.2	94.3	93.6	94.2
Highest.....	96.1	98.0	98.0	98.6	97.9	98.3
Lowest.....	73.1	79.6	78.6	89.8	87.4	83.0
Per cent of plants with employment stability of—						
95 per cent and over.....	6.7	12.5	28.1	46.9	31.2	53.2
90 to 94.9 per cent.....	40.0	28.1	40.7	46.9	59.4	37.5
85 to 89.9 per cent.....	30.0	21.9	15.6	6.2	9.4	6.2
80 to 84.9 per cent.....	20.0	34.4	12.5			3.1
Under 80 per cent.....	3.3	3.1	3.1			

Caution on Use of Data

IN CONSIDERING the stability percentages set forth above, it is to be borne in mind that the method used in computing employment stability is by no means perfect. For instance, it does not allow for what may be a normal and desirable increase in employment within the year. In this particular case, however, resulting inaccuracy is not very great, as in the iron and steel industry employment during the past few years has tended to decrease rather than increase.

Industrial Research Work by Organized Labor

ORGANIZED labor has come to realize the value of research and of organized facts, and has been taking greater and greater interest along this line. More and more, unions and their members want to "know." The value of such information is appreciated from three angles or standpoints—those of the organization as such, the members, and the industry or trade.

Research for the Organization

UNIONS have had impressed upon them the fact that unless their representatives are armed with data bearing upon all phases of their situation they find themselves at a disadvantage in their collective bargaining with the employers.

The employers at the council table are represented by experts with data at their fingers' ends. Early in the history of collective bargaining, unions would go to conference feeling that as their claims were just, they would be conceded. They soon saw, however, that having justice on their side was not enough; the claim must be proved, and to do so they must be equipped so to present their claims as to convince their opponents. This showed the need of facts and of ability to interpret these facts. But facts were not always easily available, and even when obtainable were not always clear in meaning to untrained persons. To meet this situation certain unions began some time ago to establish within their organization a statistical or research department in the charge of a trained statistician. Gradually other unions have taken similar action until to-day many unions maintain such a department.

The International Typographical Union is one of the labor organizations which recognizes the value of research. It has for some years maintained a statistical department. How wide a field such a department may cover is indicated by the report of the statistician presented to the 1927 convention of the union, which enumerates the following lines of activity:

1. Computations on comparative scales and earnings.
2. Comparative statistics on wage scales.
3. Statistics for arbitration briefs.
4. Surveys and reports on cost of living.
5. Statistics of the printing industry.
6. Comparative earnings in manufacturing industries.
7. Industrial statistics.
8. Charts of financial activities, national, State, and local.
9. Comparative earnings and investment in the printing industry.
10. General statistics and information.
11. The Monthly Bulletin, containing data for scale committees, executive council decisions, and increases in scales.
12. Tabulations of cost-of-living budgets.
13. Indexes on food, cost of living, and wholesale prices.
14. Organization reports on cost of living.
15. Reports on general business conditions.
16. Employment and wages, national, State, and municipal.
17. National and State health reports.
18. Data on compensation laws, including occupational diseases.
19. Financial reviews.
20. Computations on the relations between wage pay rolls and values added by manufacturing processes.

A similar organization was created in the Brotherhood of Maintenance of Way Employees in 1925. As to the need for such a department, the grand president of the brotherhood comments as follows:

When this brotherhood created its department of statistics and research, it is a notorious fact that the brotherhood officers did not know the existing rates on the overwhelming number of railroads throughout the United States. In Canada, where a more standard wage scale prevails, the information was more generally available, but in the United States, with its great conglomeration of maintenance-of-way wages, the officers of this brotherhood in appearing before wage tribunals would have been in a hopeless and most embarrassing predicament had they been called upon for a general outline of our wage structure. It could not have been given, for the plain simple fact that it had never been collected and was therefore not available.

It was only a few years ago when maintenance-of-way committees entered the management's office to negotiate wages armed with no statistical arguments or data themselves and to find the management abundantly supplied with these figures. Necessarily the committee was compelled to accept whatever facts and figures the management chose to present them and whether the management's arguments sounded reasonable or not, the committee was in no position to dispute them. Our department of statistics and research has corrected this harmful situation and is prepared to provide our negotiating committees with wage data when called upon to do so.¹

In that organization not only has this disadvantage on the part of the brotherhood been eliminated, but the costs of wage negotiations have been cut decidedly by employing full-time workers for this service instead of expensive experts occasionally.

In some cases the statistical department is the result of a gradual evolution. Thus the International Brotherhood of Electrical Workers states: "The outlines of this [research] department existed several years before it was officially established. The work was carried on by the international officials of the union, pieced out by such talent as could be employed from time to time." The main functions of the brotherhood's research department have been to gather material on the major questions uppermost in the labor movement, to build up a reference library, to aid in the preparation of wage briefs, and to supply information of various kinds to the local unions. The union's recognition of the value of this department is stated editorially as follows:

A cursory appraisal reveals its worth to the union. It is unthinkable that any modern organization will undertake to do business without a "department of reflection," an intelligence office whose function is to study, investigate, inquire, summarize, and make known.

Other organizations which have statistical or research departments include the International Printing Pressmen and Assistants' Union, the Brotherhood of Locomotive Firemen and Enginemen, the Amalgamated Clothing Workers, Brotherhood of Locomotive Engineers, Brotherhood of Railroad Trainmen, and the American Federation of Labor.

Organized Information for Members

NOT only do unions "want to know"; so also do their members. The members, if they are interested in their work and ambitious to get ahead, want to know what is going on in their trade and in the

¹ Journal of Electrical Workers and Operators, Washington, D. C., September, 1928.

industry, what the new developments are, and what new inventions or new processes are being introduced.

To fill this need the more wide-awake labor journals are devoting considerable space to trade subjects. A great many labor periodicals carry a regular section given over to the solution of technical problems of the trade or to setting forth the best practices of various processes. The effort is made to enable the reader to keep posted on the results of research, the newest methods, descriptions of improved or new machines, etc. Among the unions which devote much space to articles on trade subjects are those of the flint-glass workers, marine engineers, photo-engravers, printers, printing pressmen, pharmacists, locomotive firemen, locomotive engineers, carpenters, bookbinders, steam engineers, molders, barbers, lithographers, lathers, machinists, plasterers, painters, paper makers, potters, railroad trainmen, railroad clerks, and railway conductors.

The Brotherhood of Railway Carmen has established a trade education bureau with the three-fold purpose of developing books for the organization, arousing interest in trade literature, and conducting a trade department in the monthly magazine.

The work done by labor unions along educational lines is very extensive. Some unions have gone so far as to inaugurate courses for members, journeymen as well as apprentices, others are doing such work jointly with the employers, and still others have enlisted the help of other unions or of the school authorities. The International Printing Pressmen and Assistants' Union has a trade school in which experienced journeymen are taught all the fine points of their trade, the Amalgamated Lithographers of America maintains a litho-process school in New York City, and the International Typographical Union carries on special correspondence courses in printing for apprentices and journeymen.

The increased interest of the organized labor movement in the use of facts and statistics is evidenced in the September, 1928, issue of the Journal of Electrical Workers and Operators, which contains a number of articles on the subject, written from various points of view. These articles include "Labor and institutions for social research," by Mary Van Kleeck, director of the department of industrial studies of the Russell Sage Foundation; "Research scope of Federal and State departments," by Ethelbert Stewart, United States Commissioner of Labor Statistics; "Putting research information into social action," by Rev. John A. Ryan, director of the social action department of the National Catholic Welfare Conference; "Railroad workers fight wage battles with facts," by Otto S. Beyer, consulting engineer; "What subjects do American workers study?" by Spencer Miller, jr., director of the Workers' Education Bureau; "How facts advance the interest of the workers," by Florence C. Thorne, director of research of the American Federation of Labor; "Clerks get research movement under way," by E. L. Oliver, research director of the Brotherhood of Railway and Steamship Clerks; and "Maintenance of way men know research value," by F. H. Fljozdal, grand president of the Brotherhood of Maintenance of Way Employees.

General and Industrial Questions

FROM the standpoint of the trade or industry, labor unions are also taking an interest in research. Thus, in the photo-engraving industry the union and the employers have since 1919 had a joint council with the duties of formulating general trade policies, considering industrial experiments with a view to putting new ideas into effect, undertaking industrial research along technical trade lines, etc. Indeed, in this instance the union has been more concerned for the industry than the employers have been. It has constantly emphasized the value of research in keeping the industry abreast of the times, but, according to the union, the employers have been slow to realize the importance of such a measure.

The accumulation of information relating to general industrial questions has also received the attention of organized labor. Thus in July, 1927, a conference was held in Philadelphia to study the causes and possible remedies of unemployment. Economists, statisticians, employers, all who could cast any light upon the question, were invited to attend. One of the needs emphasized in the conference was that of statistics showing the extent of unemployment, and it was pointed out that trade-unions could assist materially in gathering such data. The American Federation of Labor, as a beginning in this line, has undertaken the collection of data showing the percentage of trade-unionists out of work in the various industrial centers. Since the autumn of 1927 the federation has been carrying in the *American Federationist* the results of its work, and its figures now cover some 3,000 unions, of which about 1,000 with approximately 400,000 members report regularly.

The interest of the workers in their industry and their desire for more knowledge of it have led to the holding of various labor "institutes." The first effort along this line was the railroad labor institute held during the week of August 2, 1925, and followed by a general labor institute open to trade-unionists. The attendance at the railroad institute included persons employed in various capacities on the railroads, from engineer to maintenance-of-way men, and the presidents and vice presidents of railroad labor organizations. Among the subjects discussed were labor's gains through legislative activities, the operation of the Rockefeller plan in the Colorado steel plants and coal mines, the activities of Cuban railway unions, and the giant power movement.

The special interest of the electrical workers in this last-named subject led to a special giant-power conference, held under the auspices of the International Brotherhood of Electrical Workers from July 19 to 31, 1926. The subjects covered included: The relation of giant power to the building trades; public ownership of giant power; mastering of power production; labor, the public, and giant power trends; and the giant power situation in Pennsylvania and New York.

Practically concurrently with the giant-power conference a textile workers' institute, sponsored by the United Textile Workers of America, was held. The main question studied at this institute was that of the best possible method which the union could adopt to assist in stabilizing the textile industry. The discussion covered not only the subject of raw materials used in the industry, but also banking,

transportation, and distribution problems relative to the manufacture of textiles. Commenting on the conference, the president of the union said:

This week at the institute impressed me quite forcibly with the fact that the workers as a whole, not alone in our industry but in all industries, must secure vital and necessary statistics so as to be in a position to present to the public, through the press or otherwise, the facts as they are in the industry in which they are employed.

A second railroad labor institute was held at about the same time, at which discussion centered in the development of the railroad industry; activities of the Interstate Commerce Commission in the regulation of railroads and in the direction of transportation development; the Parker-Watson Act; technical training and the effect on engineers of the new type of locomotive and of automatic train control; and benefits of union-management cooperation on the railroads.

At this conference the establishment of a trade-union railroad research bureau was strongly urged. It was pointed out that the railroad companies have their own departments of research and that "the unions will add tremendously to their own effectiveness when they study the industry minutely and arrive at scientific judgments in regard to wage movements, negotiations, and other labor-management relations."

During the four years 10 such gatherings have been held at Brookwood.

The 1927 convention of the American Federation of Labor gave formal approval to the inauguration of week-end conferences for the discussion of industrial questions and recommended that these be encouraged by the internationals and the State and city central bodies. The purpose of these is to afford "an opportunity to present the various aspects of a labor problem to the membership of labor," and to obtain the point of view of technicians, employers, and educators. "No resolutions are passed; no questions of trade-union policy are determined. There is a deliberate attempt to achieve a better appreciation of the problem by labor as well as aiding the public to understand the general question."

Sickness Records

REALIZING the value and, at the same time, the lack of data showing the incidence of sickness among wage earners, the American Federation of Labor has been urging upon its affiliated bodies the importance of keeping records of sickness of the members. Of course, those unions which pay benefits for sickness or for death have special opportunities to keep such records and to ascertain from these any special causes or conditions needing remedy. Indeed, it was just such a scrutiny of the mortality records of the Brotherhood of Locomotive Engineers that led that organization to inaugurate a urinalysis service for members, in order that one of the chief causes of illness and death among the members might be largely avoided or mitigated.

The printing-trades unions have cooperated in several surveys of the printing industry designed to reveal remediable conditions as to sanitation, physical hygiene, and preventable diseases arising from the occupation, and so have the unions in the garment industries.

General Cultural Information

BESIDES all these, organized labor is busy acquiring information along strictly educational lines in its labor colleges. The Workers' Education Bureau has been making a survey to discover what subjects American trade-unionists are studying. Analysis of 1,277 courses offered to workers in the United States during the period 1920-1927 disclosed that language and expression courses were the most popular, forming 30 per cent of the total number. But these were followed by economics courses (16.8 per cent), and sociology (11 per cent). Mr. Spencer Miller, director of the bureau, states, as the result of his study, that—

The American workers' education movement is now in its second period. It is concerning itself less with subjects than with situations, less, for example, with economics in general than with applied economics. It is, in a word, turning more to specific problems with which workers are daily concerned, which means virtually the introduction of the project method into workers' education. This is a normal and healthy growth and is bound to bring important new elements into the workers' education movement. The interest shown, for example, in week-end conferences about the country for the discussion of such subjects as unemployment, injunctions, waste in industry, industrial relations, the five-day week, point the way to a functional approach to workers' education which is bound to arouse a new enthusiasm for workers' education.

Union Wage Rates in 1928

Summary

UNION wage rates in 1928 were, on the average, slightly higher than in 1927, according to the annual survey recently completed by the Bureau of Labor Statistics. This survey covered most of the time-work trades in 67 important industrial cities and included over three-quarters of a million organized workers.

The average hourly rates in 1928 for all trades covered (including motormen and conductors and bus drivers) was \$1.159, as compared with \$1.154 in 1927, or an average increase of one-half cent per hour. Of the 75 individual time-work trades covered by the survey, 53 showed increases in average wages in 1928 as compared with 1927, while the remaining 22 showed decreases. The exact figures by principal trade groups are as follows:

TABLE 1.—AVERAGE HOURLY WAGE RATES IN SPECIFIED TRADE GROUPS IN 1927 AND 1928 AND INCREASE, 1928 OVER 1927

Trade group	Average hourly wage rate		Increase, 1928 over 1927
	1927	1928	
Bakers.....	\$0.957	\$0.954	¹ \$0.003
Building-trades workers.....	1.323	1.330	.007
Chauffeurs and teamsters and drivers.....	.704	.712	.008
Granite and stone cutters.....	1.321	1.335	.014
Laundry workers.....	.432	.447	.015
Linemen.....	.991	1.007	.016
Longshoremen.....	.817	.858	.041
Printing and publishing:			
Book and job.....	1.021	1.036	.015
Newspaper.....	1.190	1.220	.030
Average ²	1.190	1.195	.005
Motormen and conductors.....	.682	.685	.003
Bus drivers.....	.700	.666	¹ .034
Grand average, all trades ²	1.154	1.159	.005

¹ Decrease.

² Not including pieceworkers.

The hours of labor with an average of 44.9 in 1928 show a further reduction of 0.5 per cent from 1927. The reduction in hours of labor has been almost as continuous as the increase in rates per hour. In the earlier years of this study the decrease in hours was brought about mainly by reductions in those trades working more than eight hours per day or six days per week. Later the reduction was continued by more of the trades granting a short day Saturday, working five and one-half days per week, while now the reduction is brought about by the increasing number of trades working a 5-day week.

Table 5 shows that building and fresco painters, with an average of 41.5 hours per week, have the shortest working week—lathers on piecework and plasterers, with 41.8 hours, are next—while teamsters and drivers, with 55.7, have the longest working week.

Table 2 shows for 1928 the average hours worked and the per cent of members working under specified hours or range of hours by trade groups.

TABLE 2.—PER CENT OF TRADE-UNION MEMBERS, BY GROUPS, WORKING EACH CLASSIFIED NUMBER OF HOURS PER WEEK, MAY 15, 1928

Trade group	Average hours per week	Per cent of members whose hours per week were—									
		40 and under	Over 40 and under 44	44	Over 44 and under 48	48	Over 48 and under 54	54	Over 54 and under 60	60	Over 60
Bakers.....	47.4	—	12.3	—	3.8	80.0	0.8	3.1	—	—	—
Building trades.....	43.5	15.3	—	82.3	1.1	.9	.3	.1	—	—	—
Chauffeurs and teamsters and drivers.....	54.8	—	—	1.4	4.3	14.6	11.3	20.5	14.0	31.8	2.1
Granite and stone trades.....	44.0	.1	—	99.6	—	—	.3	—	—	—	—
Laundry.....	48.0	—	—	—	—	100.0	—	—	—	—	—
Linemen.....	45.7	2.0	—	59.0	1.9	26.7	9.4	.7	.4	—	—
Longshoremen.....	44.6	—	—	86.7	—	12.1	—	(1)	.9	.1	.1
Printing and publishing: Book and job.....	44.3	(1)	.2	91.5	(1)	8.3	—	—	—	—	—
Newspaper.....	45.1	5.7	11.6	9.8	41.4	31.4	—	—	—	—	—
Average.....	44.9	10.6	.7	70.2	2.8	7.1	1.4	2.2	1.5	3.2	.2

¹ Less than one-tenth of 1 per cent.

The detailed report follows:

Union Scales of Wages and Hours of Labor in May, 1928, by Occupations

IN THE September, 1928, issue of the Labor Review preliminary data gathered by the Bureau of Labor Statistics relating to the union scales of wages and hours of labor were given for 20 trades as found in 40 cities. This article gives the results of the final compilations, by occupations, for 839,955 members of organized trades located in 67 selected cities of the United States as of May 15, 1928.

These data cover the bakery trades, the building trades, chauffeurs and teamsters and drivers, the stone trades, laundry workers, linemen, longshoremen, the printing trades, motormen and conductors on street railways and bus drivers. All of these trades are employed at time rates except some of the lathers and composing-machine operators.

Aside from time-work trades there are many trades employed wholly or mostly at piece rates. These trades frequently have a multitude of piece rates practically impossible to incorporate in a general tabulation and difficult to understand by anyone not familiar with the particular industries. The limitations of the present study therefore should be kept in mind in using the figures.

The grand average rate for all trades included in this study, not including pieceworkers, street-railway employees and bus drivers, increased from \$1.190 per hour in 1927 to \$1.195 in 1928. In all trades taken collectively the hourly union wage rate on May 15, 1928, was higher in the United States than in any preceding year, being 0.4 per cent higher than on the same date in 1927, 128.3 per cent higher than in 1917, 160.6 per cent higher than in 1913, 175.9 per cent higher than in 1910, and 190.5 per cent higher than in 1907. In other

words, union wage rates per hour were nearly three times as much in 1928 as in 1910, and more than two and one-half times as much as in 1913.

All hourly rates have been converted to equivalent weekly rates and all weekly rates have been reduced to equivalent hourly rates. Taken collectively, weekly rates in 1928 were 0.1 per cent lower than in 1927, 114.0 per cent higher than in 1917, 140.6 per cent higher than in 1913, 152.7 per cent higher than in 1910, and 162.8 per cent higher than in 1907. Because of reductions in hours of labor, weekly rates have not increased to the same extent as hourly rates. In 1928 the regular hours of labor were five-tenths of 1 per cent lower than in 1927, 6.6 per cent lower than in 1917, 8.1 per cent lower than in 1913, 9.1 per cent lower than in 1910 and 10.4 per cent lower than in 1907.

Table 3 shows by index numbers the change in union wage rates and hours of labor from 1907 to 1928, the base (100) being 1913. These index numbers include all trades and all cities covered in preceding years except street-railway motormen and conductors and bus drivers. Rates of wages per hour were obtained for 55,443 street-railway motormen and conductors and 3,058 bus drivers, but their hours of labor are so variable that no attempt was made to report them. These occupations are omitted from all three columns of the index numbers below, as of necessity they could not be included in the second and third columns. Piece rates are omitted from these index numbers because hourly rates can not be computed. Pieceworkers, however, and street-railway motormen and conductors and bus drivers are included in the grand total of organized membership shown on page 15.

The number of trades and cities included in the data has varied from year to year.

TABLE 3.—INDEX NUMBERS OF UNION WAGE RATES AND HOURS OF LABOR IN THE UNITED STATES AS OF MAY EACH YEAR, 1907 TO 1928

[1913=100]

Year	Index numbers of—			Year	Index numbers of—		
	Rate of wages per hour	Hours per full-time week	Rate of wages per full-time week		Rate of wages per hour	Hours per full-time week	Rate of wages per full-time week
1907.....	89.7	102.6	91.5	1918.....	132.7	97.0	129.6
1908.....	91.0	102.1	92.5	1919.....	154.5	94.7	147.8
1909.....	91.9	101.9	93.3	1920.....	199.0	93.8	188.5
1910.....	94.4	101.1	95.2	1921.....	205.3	93.9	193.3
1911.....	96.0	100.7	96.5	1922.....	193.1	94.4	183.0
1912.....	97.6	100.3	97.7	1923.....	210.6	94.3	198.6
1913.....	100.0	100.0	100.0	1924.....	228.1	93.9	214.3
1914.....	101.9	99.6	101.6	1925.....	237.9	93.0	222.3
1915.....	102.8	99.4	102.3	1926.....	250.3	92.8	233.4
1916.....	107.2	98.8	106.2	1927.....	259.5	92.4	240.8
1917.....	114.2	98.4	112.4	1928.....	260.6	91.9	240.6

Because of the wide interest in building operations and the resultant inquiries to the bureau for wage changes in building trades as a group, the table following is published:

TABLE 4.—INDEX NUMBERS OF UNION RATES OF WAGES PER HOUR IN THE BUILDING TRADES

[1913=100]

Year	Index numbers	Year	Index numbers
1913.....	100	1921.....	200
1914.....	102	1922.....	187
1915.....	103	1923.....	207
1916.....	106	1924.....	224
1917.....	113	1925.....	233
1918.....	126	1926.....	248
1919.....	145	1927.....	257
1920.....	197	1928.....	258

Table 5 shows the average union-wage rates per hour, average full-time working hours per week, the number of quotations on which 1928 averages are based, and index numbers of hourly rates for the years 1923 to 1928. The index numbers for the years back to 1907 may be found in Bulletin No. 431 of this bureau, but are omitted here for want of space. For some trades data were not collected as early as 1913, hence there can be no index numbers for them on a 1913 base.

In computing an average rate, each rate quoted is multiplied by the number of union members having such rate. The products are added and the sum divided by the grand total membership; in other words, the rates are weighted by the number of union members. This membership is furnished the bureau for this sole purpose and is held strictly confidential.

The rates for a city may enter into an average one year because the trade has an effective wage scale, but may drop out the next year because the trade can not enforce its scale or because the union has disbanded. Also, the membership fluctuations in high or low rate cities have an important bearing on this weighted average rate. The grand average rate may, possibly, vary to a greater extent than the rate in any city reporting for both years or it may show a decrease while the individual rates composing it may show no change and some increases. The index numbers are computed from these averages. Index numbers have not been computed for the several industry groups, except for the building trades, shown in Table 4. In Table 5 hourly rates only are considered. Equivalent weekly rates do not exactly parallel hourly rates because of changes in working hours.

TABLE 5.—AVERAGE WAGE RATES PER HOUR, 1927 AND 1928, AVERAGE FULL-TIME HOURS PER WEEK, 1928, AND INDEX NUMBERS OF HOURLY RATES FOR SELECTED YEARS BASED ON 1913

Trades	Number of quotations, May, 1928	Average rate of wages per hour		Index numbers of rates of wages per hour [1913=100]						Average hours per week, May, 1928	
		May, 1927	May, 1928	May, 1923	May, 1924	May, 1925	May, 1926	May, 1927	May, 1928		
<i>Bakery trades</i>											
Bakers.....	284	\$0.957	\$0.954	276.0	283.5	293.4	277.2	286.8	285.9	47.4	
<i>Building trades</i>											
Asbestos workers.....	38	1.309	1.317	(1)	(1)	(1)	(1)	(1)	(1)	43.9	
Bricklayers.....	68	1.603	1.617	191.1	202.2	213.4	226.4	231.9	233.9	43.8	
Sewer, tunnel, and caisson.....	13	2.101	2.059	159.6	167.3	187.1	199.2	218.6	214.3	43.9	
Building laborers.....	49	.854	.858	218.1	242.4	231.6	254.9	255.8	257.0	44.7	
Carpenters.....	66	1.311	1.315	204.0	218.3	222.8	238.4	246.7	247.5	43.7	
Millwrights.....	14	1.389	1.292	(1)	(1)	(1)	(1)	(1)	(1)	43.5	
Parquetry-floor layers.....	16	1.422	1.342	222.0	222.0	215.7	253.1	250.2	236.1	43.4	
Wharf and bridge.....	17	1.317	1.304	(1)	(1)	(1)	(1)	(1)	(1)	44.0	
Cement finishers.....	60	1.379	1.366	191.2	211.4	212.6	226.9	236.8	234.6	43.7	
Helpers.....	3	1.060	1.016	223.4	248.3	260.8	288.0	294.1	281.9	44.0	
Composition roofers.....	39	1.302	1.333	(1)	(1)	(1)	(1)	(1)	(1)	44.0	
Helpers.....	4	.750	.803	(1)	(1)	(1)	(1)	(1)	(1)	44.0	
Elevator constructors.....	45	1.433	1.447	(1)	(1)	(1)	(1)	(1)	(1)	44.0	
Helpers.....	44	1.033	1.052	(1)	(1)	(1)	(1)	(1)	(1)	44.0	
Engineers, portable and hoisting.....	109	1.379	1.436	185.5	197.2	205.7	217.2	224.2	233.5	44.6	
Glaziers.....	31	1.323	1.337	(1)	(1)	(1)	(1)	(1)	(1)	44.0	
Hod carriers.....	45	1.026	1.027	215.4	224.9	251.5	273.8	280.4	280.7	44.1	
Inside wiremen.....	64	1.395	1.408	197.1	220.5	232.4	244.6	255.0	257.2	43.7	
Fixture hangers.....	12	1.206	1.222	205.6	221.8	220.8	234.7	232.7	235.8	43.8	
Lathers:											
Piece work.....	20	1.336	1.457	(1)	(1)	(1)	(1)	(1)	(1)	41.8	
Time work.....	71	1.492	1.496	199.3	215.1	234.5	240.6	250.3	251.0	43.2	
Marble setters.....	51	1.448	1.455	178.0	186.1	190.0	212.3	217.0	218.0	44.0	
Helpers.....	16	.990	1.001	216.2	234.3	222.5	246.7	245.2	248.0	44.0	
Mosaic and terrazzo workers.....	21	1.291	1.351	(1)	(1)	(1)	(1)	(1)	(1)	43.9	
Painters.....	65	1.349	1.372	218.7	230.5	243.1	257.5	265.4	270.8	41.5	
Fresco.....	11	1.335	1.235	206.5	194.1	220.0	220.1	245.1	226.7	41.5	
Sign.....	44	1.566	1.568	210.0	239.2	241.5	240.4	247.2	247.5	42.5	
Plasterers.....	65	1.628	1.632	193.2	216.1	219.8	236.1	241.0	241.6	41.8	
Laborers.....	39	1.068	1.066	212.0	227.8	243.1	257.2	259.7	264.1	42.4	
Plumbers and gas fitters.....	64	1.409	1.439	185.6	202.4	206.6	222.7	227.2	232.1	43.9	
Laborers.....	11	.975	.965	(1)	(1)	(1)	(1)	(1)	(1)	44.0	
Sheet-metal workers.....	51	1.330	1.305	201.9	221.7	229.3	244.8	252.2	247.4	43.9	
Ship carpenters.....	9	.860	.900	(1)	(1)	(1)	(1)	(1)	(1)	44.0	
Slate and tile roofers.....	26	1.535	1.538	(1)	(1)	(1)	(1)	(1)	(1)	44.0	
Steam and sprinkler fitters.....	77	1.415	1.435	175.6	201.5	212.2	229.7	236.2	239.5	43.9	
Helpers.....	37	.947	.967	240.1	266.0	273.7	289.7	302.8	309.2	43.8	
Stonemasons.....	56	1.563	1.583	212.5	225.2	229.5	253.1	256.0	259.3	44.0	
Structural-iron workers.....	74	1.464	1.465	178.4	202.5	204.5	218.5	235.5	235.7	44.0	
Finishers.....	41	1.420	1.431	174.7	193.7	197.9	220.7	228.5	230.2	44.0	
Tile layers.....	58	1.454	1.453	174.0	197.5	202.3	212.0	221.9	221.8	43.8	
Helpers.....	18	.979	.999	222.4	242.2	248.9	269.8	272.9	278.5	44.0	
Average for building trades.....	1,662	1.323	1.330	-----	-----	-----	-----	-----	-----	43.5	
<i>Chauffeurs and teamsters and drivers</i>											
Chauffeurs.....	375	.703	.706	197.7	205.6	223.5	226.3	242.1	243.2	54.4	
Teamsters and drivers.....	164	.706	.727	224.9	244.7	254.3	256.6	269.1	277.1	55.7	
Average for chauffeurs and teamsters and drivers.....	539	.704	.712	-----	-----	-----	-----	-----	-----	54.8	
<i>Granite and stone trades</i>											
Granite cutters.....	63	1.242	1.256	212.7	214.2	216.8	244.1	242.6	245.3	44.0	
Stone cutters.....	50	1.400	1.406	198.3	212.9	221.9	241.9	241.2	242.2	44.0	
Average for granite and stone trades.....	113	1.321	1.335	-----	-----	-----	-----	-----	-----	44.0	

¹ No data for 1913.² Per 1,000 laths.

TABLE 5.—AVERAGE WAGE RATES PER HOUR, 1927 AND 1928, AVERAGE FULL-TIME HOURS PER WEEK, 1928, AND INDEX NUMBERS OF HOURLY RATES FOR SELECTED YEARS BASED ON 1913—Continued

Trades	Number of quotations, May, 1928	Average rate of wages per hour		Index numbers of rates of wages per hour [1913=100]						Average hours per week, May, 1928
		May, 1927	May, 1928	May, 1923	May, 1924	May, 1925	May, 1926	May, 1927	May, 1928	
Miscellaneous										
Laundry workers.....	43	.432	.447	(1)	(1)	(1)	(1)	(1)	(1)	48.0
Lineman.....	45	.991	1.007	(1)	(1)	(1)	(1)	(1)	(1)	45.7
Longshoremen.....	46	.817	.858	209.2	238.5	239.9	242.0	236.7	248.6	44.6
Printing and publishing: Book and job										
Bindery women.....	50	.522	.525	244.2	247.6	250.5	235.6	251.5	252.9	44.8
Bookbinders.....	84	.996	.991	224.0	233.9	236.6	240.8	246.0	244.8	44.9
Compositors.....	70	1.105	1.121	228.5	238.5	237.4	242.1	246.6	250.1	44.0
Electrotypers.....	58	1.223	1.232	241.6	250.6	249.7	252.2	255.2	257.1	45.4
Machine operators.....	66	1.162	1.170	203.8	212.9	211.7	215.2	223.0	224.6	43.9
Machine tenders (machinists).....	25	1.234	1.178	200.2	214.4	210.4	219.9	227.1	216.8	44.0
Machinist operators.....	36	1.148	1.069	169.8	171.6	183.7	179.2	189.6	176.6	43.9
Photo-engravers.....	51	1.276	1.312	(1)	(1)	(1)	(1)	(1)	(1)	44.0
Press assistants and feeders.....	153	.837	.842	266.2	263.8	278.8	281.9	285.3	287.0	44.3
Pressmen:										
Cylinder.....	152	1.121	1.130	216.7	223.1	225.9	230.5	230.8	232.7	44.3
Platen.....	114	.941	.925	235.8	242.9	244.3	255.8	258.3	253.9	44.4
Average for printing and publishing: Book and job.....	859	1.021	1.036							44.3
Printing and publishing: Newspaper										
Compositors:										
Day work.....	84	1.149	1.176	177.9	189.0	193.9	196.7	201.8	206.6	45.7
Night work.....	75	1.290	1.311	178.2	187.5	187.4	193.4	199.7	203.0	45.1
Machine operators, day work:										
Piece work.....	10	1.150	1.154	125.0	117.8	135.8	138.5	134.9	138.5	42.7
Time work.....	83	1.176	1.204	183.1	193.4	198.0	201.6	208.9	213.8	45.1
Machine operators, night work:										
Piece work.....	9	1.160	1.154	112.3	110.9	113.7	118.6	112.3	108.1	43.5
Time work.....	73	1.268	1.326	175.5	186.4	189.5	195.7	196.9	205.9	44.8
Machine tenders (machinists):										
Day work.....	68	1.144	1.167	180.9	191.5	185.3	185.2	194.4	198.4	45.8
Night work.....	59	1.275	1.300	173.0	183.0	178.4	176.5	187.1	190.8	45.3
Machinist operators:										
Day work.....	12	1.070	1.082	166.8	180.7	178.7	171.9	177.2	179.2	46.0
Night work.....	8	1.204	1.210	151.1	164.5	156.8	161.1	174.9	175.8	45.4
Photo-engravers:										
Day work.....	41	1.266	1.337	(1)	(1)	(1)	(1)	(1)	(1)	44.0
Night work.....	33	1.541	1.577	(1)	(1)	(1)	(1)	(1)	(1)	41.6
Pressmen, web presses:										
Day work.....	125	1.066	1.074	182.4	199.4	208.2	212.2	223.3	224.9	46.8
Night work.....	104	1.220	1.255	169.6	193.2	200.6	198.5	209.7	215.7	42.5
Stereotypers:										
Day work.....	62	1.007	1.007	174.9	180.4	184.5	188.1	191.0	191.0	47.2
Night work.....	57	1.141	1.142	178.6	182.8	188.4	187.9	188.4	188.6	43.2
Average for printing and publishing: News paper.....	903	1.190	1.220							45.1
Average for above trades ¹	4,494	1.190	1.195	210.6	228.1	237.9	250.3	259.5	260.6	44.9
Motormen and conductors.....	200	.682	.685	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Bus drivers.....	54	.700	.666	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Average for all trades ²	4,748	1.159	1.154	(1)	(1)	(1)	(1)	(1)	(1)	(1)

¹ No data for 1913.
² Per 1,000 ems.

³ Not reported.
⁴ Not including piece workers.

Table 6 shows the per cent of increase in weekly wage rates in 1928 as compared with specified years, beginning with 1907, the earliest year for which data are available. For lack of space the years 1908 to 1912, inclusive, 1914 to 1916 inclusive, 1918, 1920 and 1922 are omitted. The figures are not index numbers, but may be converted into index numbers. The first line of the table shows that the weekly rate of bakers in 1928 was 199.1 per cent higher than in 1907. This means that the rate was slightly less than three times as much in 1928 as in 1907. Read as index numbers and taking 1907 as 100, the index for 1928 is 299.1. If 1913 is taken as the base (100), then 1928 is 254.5.

In all the 35 trade classifications for which data reach back that far, weekly rates more than doubled between 1907 and 1928 and two more than trebled.

Comparing 1928 wages per full-time week with those of 1927, the changes noted in individual trades are as follows: Bakers' wage rates show a decrease of 1.4 per cent. In the building trades, 25 occupations show increases, while 15 show decreases, the range of increases being from one-tenth of 1 per cent for sign painters and slate and tile roofers to 7.1 per cent for composition roofers' helpers. Mosaic and terrazzo workers' rates increased 4.7 per cent, and those of ship carpenters 4.3 per cent, but most of the increases were 2 per cent or less. The decreases ranged from less than one-tenth of 1 per cent for structural-iron workers to 8 per cent for millwright carpenters and fresco painters. The parquetry-floor layers' scale decreased 6.2 per cent, that of cement finishers' helpers 4.2 per cent and that of sheet-metal workers 2.1 per cent, while the remainder of the decreases were less than 2 per cent. Chauffeurs' wages show an increase of three-tenths of 1 per cent, and the wages of teamsters and drivers increased 2.9 per cent. Wages in the granite and stone trades increased slightly, the rate of granite cutters increasing 1.1 per cent and of stonecutters four-tenths of 1 per cent. Laundry workers' rates increased 3.8 per cent, that of linemen increased 1 per cent, and that of longshoremen increased 5 per cent. In the book and job printing, all occupations had an increase in rate except machine tenders, machinist operators, and platen pressmen, which trades show decreases of 4.5 per cent, 7.0 per cent and 1.5 per cent, respectively. The increases ranged from one-tenth of 1 per cent for bookbinders to 2.8 per cent for photo-engravers. In the newspaper printing trades all occupations had an increase of rate except machinist operators, whose rate decreased five-tenths of 1 per cent for day work and one-tenth of 1 per cent for night work. The increases ranged from six-tenths of 1 per cent for stereotypers on night work and seven-tenths of 1 per cent for those on day work to 4.3 per cent for machine operators on night work and 2.2 per cent for those on day work.

TABLE 6.—PER CENT OF INCREASE IN RATES OF WAGES PER FULL-TIME WEEK IN 1928 AS COMPARED WITH SPECIFIED PRECEDING YEARS

Occupation	Per cent of increase in rates of wages per full-time week in 1928 as compared with—									
	1907	1913	1917	1919	1921	1923	1924	1925	1926	1927
<i>Bakery trades</i>										
Bakers.....	199.1	154.5	122.9	47.7	2.3	3.0	(¹)	² 2.7	1.7	³ 1.4
<i>Building trades</i>										
Asbestos workers.....	(³)	(³)	123.3	66.6	26.8	30.9	17.2	12.8	5.5	.5
Bricklayers.....	137.7	129.6	115.9	81.1	34.6	21.6	15.4	9.0	2.7	.8
Sewer, tunnel and caisson.....	(³)	113.8	106.8	88.8	39.6	34.0	27.9	14.3	7.5	³ 1.0
Building laborers.....	153.5	137.0	112.4	63.1	13.0	17.9	6.7	11.3	.9	.3
Carpenters.....	165.1	143.2	112.1	69.4	24.9	20.6	12.6	10.4	3.2	² 2
Millwrights.....	(³)	(³)	89.1	45.9	13.6	9.2	1.7	8.3	4.4	² 8.0
Parquetry-floor layers.....	(³)	120.7	89.5	56.0	6.7	6.0	6.4	9.5	² 7.5	² 6.2
Wharf and bridge.....	(³)	(³)	126.6	93.1	32.3	30.9	21.7	10.9	3.8	² 1.1
Cement finishers.....	140.1	122.6	109.5	71.3	22.9	21.3	9.7	9.2	2.4	² 1.6
Helpers.....	220.1	180.0	165.4	100.3	24.7	26.3	13.6	8.1	² 2.1	² 4.2
Composition roofers.....	(³)	(³)	145.0	95.1	32.1	29.0	17.8	14.2	5.1	2.2
Helpers.....	(³)	(³)	94.9	61.3	14.9	15.5	11.4	5.7	² 13.8	7.1
Elevator constructors.....	(³)	(³)	114.6	74.5	28.6	29.6	15.4	10.3	4.6	.9
Helpers.....	(³)	(³)	143.2	89.4	30.1	30.3	18.3	13.1	5.0	1.8
Engineers, portable and hoisting.....	(³)	124.0	111.2	72.8	31.2	27.4	19.7	14.3	8.0	2.4
Glaziers.....	(³)	(³)	(³)	92.5	35.9	28.3	21.4	9.7	7.8	.8
Hod carriers.....	187.2	178.9	139.0	75.5	18.2	30.2	24.8	11.8	2.6	.2
Inside wiremen.....	176.3	147.9	121.7	75.3	26.7	29.8	16.0	10.1	4.7	.5
Fixture hangers.....	(³)	125.1	97.0	62.5	15.9	14.2	6.2	6.0	(⁴)	1.2
Lathers.....	(³)	142.1	122.6	86.2	28.9	23.8	14.9	5.4	3.2	² 2
Marble setters.....	136.3	116.0	111.5	81.8	35.6	22.4	17.1	14.7	2.6	.5
Helpers.....	(³)	147.6	131.8	94.2	15.1	14.5	5.8	11.4	.4	1.1
Mosaic and terrazzo workers.....	(³)	(³)	133.3	108.0	37.1	37.8	16.7	10.9	8.7	4.7
Painters.....										
Building.....	185.9	149.3	115.1	67.4	23.1	19.3	13.3	6.9	1.6	² 1.3
Fresco.....	(³)	112.9	83.6	51.2	11.5	11.1	14.8	4.0	1.1	² 8.0
Sign.....	(³)	134.8	121.6	69.0	21.3	15.7	3.8	2.6	.7	.1
Plasterers.....	135.3	126.3	114.0	76.3	28.4	19.1	6.5	5.0	1.0	² 6
Laborers.....	173.5	150.6	125.6	72.2	16.2	20.0	11.9	4.7	2.9	2.0
Plumbers and gas fitters.....	151.1	127.4	115.5	73.9	28.0	24.9	14.5	12.2	4.0	2.1
Laborers.....	(³)	(³)	(³)	54.4	13.1	8.4	² 1.7	.1	² 4	² 1.1
Sheet-metal workers.....	175.0	139.9	117.0	69.9	21.6	21.8	11.0	7.4	.5	² 2.1
Ship carpenters.....	(³)	(³)	46.1	8.6	² 2.2	² 4.9	² 13.3	1.1	² 7.5	4.3
Slate and tile roofers.....	(³)	(³)	135.5	89.7	33.7	25.5	13.3	8.3	4.8	.1
Steam and sprinkler fitters.....	166.1	132.6	113.9	76.0	39.6	36.1	18.6	12.7	4.1	1.4
Helpers.....	257.1	202.6	169.3	96.6	40.2	28.5	15.9	12.7	6.6	1.9
Stonemasons.....	170.5	155.8	134.2	91.7	33.9	21.7	15.0	12.9	2.3	1.3
Structural-iron workers.....	158.6	132.7	113.3	65.2	28.1	32.0	16.3	15.2	7.8	(⁴)
Finishers.....	(³)	130.4	112.4	68.3	25.6	31.7	18.8	17.1	4.2	.6
Tile layers.....	(³)	117.0	104.7	82.9	36.7	27.1	11.9	9.3	3.4	² 3
Helpers.....	(³)	171.6	151.2	102.5	21.0	25.1	14.9	11.8	3.1	2.0
<i>Chauffeurs and teamsters and drivers</i>										
Chauffeurs.....	(³)	101.1	84.2	38.1	15.3	16.0	11.2	4.5	4.5	.3
Teamsters and drivers.....	(³)	147.1	120.0	56.7	23.9	22.5	14.3	3.0	7.6	2.9
<i>Granite and stone trades</i>										
Granite cutters.....	165.6	144.6	124.5	59.6	17.6	15.8	14.6	13.1	.6	1.1
Stonecutters.....	148.4	139.1	117.1	72.8	27.7	22.2	13.7	8.9	.2	.4
<i>Miscellaneous trades</i>										
Laundry workers.....	(³)	(³)	78.6	37.7	7.6	7.7	7.7	.7	1.7	3.8
Linemen.....	(³)	(³)	(³)	(³)	6.3	10.0	5.4	5.7	1.1	1.0
Longshoremen.....	(³)	88.6	58.6	26.5	4.2	9.9	² 3.6	1.1	1.2	5.0
<i>Printing and publishing: Book and job</i>										
Bindery women.....	(³)	(³)	119.2	51.9	2.8	3.3	1.8	.8	6.4	.6
Bookbinders.....	144.8	128.4	111.0	47.3	10.0	9.5	5.1	3.6	1.8	.1
Compositors.....	158.6	129.8	114.0	58.6	11.3	9.9	5.0	5.4	3.4	1.5
Electrotypers.....	176.9	149.1	120.3	82.9	15.7	7.2	3.6	3.0	2.0	.7
Machine operators.....	125.1	106.9	98.5	51.2	11.7	10.1	6.0	5.8	4.4	.7

¹No change.²Decrease.³No data.⁴Less than one-tenth of 1 per cent decrease.

TABLE 6.—PER CENT OF INCREASE IN RATES OF WAGES PER FULL-TIME WEEK IN 1928 AS COMPARED WITH SPECIFIED PRECEDING YEARS—Continued

Occupation	Per cent of increase in rates of wages per full-time week in 1928 as compared with—									
	1907	1913	1917	1919	1921	1923	1924	1925	1926	1927
<i>Printing and publishing: Book and job—Continued</i>										
Machine tenders (machinists).....	(¹)	99.2	92.2	42.5	8.8	8.1	0.2	0.9	1.5	² 4.5
Machinist-operators.....	(¹)	66.8	60.8	35.3	6.9	4.1	2.9	² 4.3	² 1.8	² 7.0
Photo-engravers.....	(¹)	(¹)	113.7	73.4	28.0	25.8	17.4	14.4	7.7	2.8
Press assistants and feeders.....	194.6	163.9	139.6	59.4	14.9	7.4	7.1	2.8	1.8	.5
Pressmen:										
Cylinder.....	142.4	114.0	102.3	51.1	10.8	6.8	3.7	2.8	.8	.8
Platen.....	155.8	134.3	114.5	58.7	7.3	7.2	3.8	3.3	² 1.5	² 1.5
<i>Printing and publishing: Newspaper</i>										
Compositors:										
Day work.....	127.6	104.1	95.2	55.8	17.1	13.7	5.7	5.7	4.3	1.7
Night work.....	116.1	101.5	94.6	54.6	17.6	11.7	7.6	7.5	4.3	1.6
Machine operators:										
Day work.....	129.8	110.0	100.2	57.9	20.7	14.3	9.7	7.2	5.5	2.2
Night work.....	118.4	104.7	96.3	55.3	20.5	14.4	9.7	8.3	5.2	4.3
Machine tenders (machinists):										
Day work.....	(¹)	97.8	93.1	43.6	11.1	8.9	3.7	6.5	6.7	1.7
Night work.....	(¹)	90.6	86.9	41.3	11.6	9.5	4.1	6.6	8.0	2.5
Machinist-operators:										
Day work.....	(¹)	74.4	67.9	55.9	8.2	6.3	² 1.2	3.5	2.2	² 1.5
Night work.....	(¹)	79.3	74.3	51.3	12.2	14.0	5.7	9.4	6.5	² 1.1
Photo-engravers:										
Day work.....	(¹)	(¹)	107.9	68.3	26.4	22.6	17.5	13.5	10.2	5.6
Night work.....	(¹)	(¹)	113.9	67.1	28.2	20.7	16.1	13.3	1.7	1.9
Pressmen, web presses:										
Day work.....	150.7	123.4	114.1	63.0	21.3	20.0	12.1	7.8	5.7	.7
Night work.....	134.8	123.5	116.6	61.4	22.0	20.4	12.3	8.1	7.9	2.6
Stereotypers:										
Day work.....	116.7	89.8	81.0	54.6	11.9	8.9	5.8	3.4	1.4	.7
Night work.....	107.2	88.8	80.9	54.3	10.5	7.3	4.6	2.8	1.6	.6

¹ Decrease.² No data.

International Association of Industrial Accident Boards and Commissions: Its Accomplishments, 1914 to 1928

WITH the exception of five States—Arkansas, Florida, Mississippi, and North and South Carolina—every jurisdiction in the United States has some form of workmen's compensation legislation. Federal laws cover employees of the United States, employees in the District of Columbia, and longshoremen and harbor workers. In some States, for instance, Alabama, Alaska, Louisiana, New Hampshire, New Mexico, Tennessee, and Wyoming the law is administered by the courts, but in other States there is an administrative agency charged specifically with the supervision of the compensation law.

The officials at the head of these administering agencies are appointed for a term of years. Some of them may have made workmen's compensation their life work, while others may not have any special qualifications or experience along this line. When their terms of appointment have expired (in some cases just as they are becoming really familiar with the duties of their position) the officials may be reappointed for another term, or they may step aside to be succeeded by other men as unfamiliar with workmen's compensation legislation administration as they themselves had been at the beginning of their terms.

The disadvantage of this lack of background of experience on the part of administering officials was recognized as early as 1914, when the compensation laws then in existence in this country were comparatively recent. In April of that year the men then administering the workmen's compensation laws of the States of Indiana, Iowa, Massachusetts, Michigan, Ohio, Washington, and Wisconsin met at Lansing, Mich., for the purpose of discussing their problems. When they adjourned they had formed the National Association of Industrial Accident Boards and Commissions. Later, when some of the workmen's compensation boards of Canada joined with them, the name of the association was changed to International Association of Industrial Accident Boards and Commissions.

Its objects, as set forth in the constitution, are "to hold meetings once a year, or oftener, for the purpose of bringing together the officials charged with the duty of administering the workmen's compensation laws of the United States and Canada to consider, and, so far as possible, to agree on standardizing (a) ways of cutting down accidents; (b) medical, surgical, and hospital treatment for injured workers; (c) means for the reeducation of injured workmen and their restoration to industry; (d) methods of computing industrial accident and sickness insurance costs; (e) practices in administering compensation laws; (f) extensions and improvements in workmen's compensation legislation; and (g) reports and tabulations of industrial accidents and illnesses."

It is a function of the association to keep its membership informed of events in the field of workmen's compensation, and to investigate and report at its annual conventions on various phases of the subject on which information is desired. Discussion of these questions at the conventions develops a consensus of opinion as to their proper settlement and enables the officials who have had no past experience with the problems under discussion to profit by the experience of those

officials to whom such problems have been a source of trouble and to inform themselves as to the manner of handling such cases in other States.

Annual conventions have been held since the association was formed in 1914, the proceedings of which since 1916 have been published by the United States Bureau of Labor Statistics. These proceedings have been indexed, and form a series of valuable references to problems of workmen's compensation.

Inasmuch as the association has now been in existence 14 years, and the fifteenth annual convention, recently held at Paterson, N. J., proved beyond doubt by the number in attendance and the interest manifested that it is still an association that is keenly alive and useful to its membership, with much work ahead in the future, it is interesting to review some of the accomplishments of this organization during the past.

Industrial-Accident Prevention

EVEN more important than the compensation of the workmen for accidents after they occur is the prevention of industrial accidents; and the association has devoted a large portion of its time and activity to this subject. The proceedings of each convention contain papers and discussion by experts on various phases of industrial accident prevention—factory inspection, safety education, mechanical safeguarding of machinery, etc.

The association has representatives on the safety code correlating committee of the American Standards Association (formerly the American Engineering Standards Committee). Under the auspices of the American Standards Association it has been joint sponsor for a safety code for the use, care, and protection of abrasive wheels, a safety code for woodworking plants, and a safety code for rubber mills and calenders. It has had representatives on the sectional committees formulating the following safety codes issued by the American Standards Association, which have been published by the United States Bureau of Labor Statistics:

- Bul. No. 331. Code of lighting: Factories, mills, and other work places.
- Bul. No. 336. Safety code for the protection of industrial workers in foundries.
- Bul. No. 351. Safety code for the construction, care, and use of ladders.
- Bul. No. 375. Safety code for laundry machinery and operations.
- Bul. No. 378. Safety code for woodworking plants.
- Bul. No. 410. Safety code for paper and pulp mills.
- Bul. No. 433. Safety codes for the prevention of dust explosions.
- Bul. No. 436. Safety code for the use, care, and protection of abrasive wheels.
- Bul. No. 447. Safety code for rubber mills and calenders.
- Bul. No. 451. Safety code for forging and hot metal stamping.
- Bul. No. 463. Safety code for mechanical power-transmission apparatus.

Other industrial safety codes are in process of formation, in which the association is taking part.

Standardization of Industrial Accident Statistics

THE first essential to effective work in accident prevention is information as to where and how and why industrial accidents are occurring. This can be secured only by compiling statistics of industrial accidents within the States, by industries. The United States Bureau of Labor Statistics has been endeavoring for some

years to induce each of the States to gather such statistics and to report them to the bureau, which brings together and publishes the statistics as to accidents in the various industries of the country, in so far as they are available. The International Association of Industrial Accident Boards and Commissions has been no small factor in inducing the States to do this work and report to the Federal bureau. However, there are unfortunately still some States which collect no accident statistics at all, while others do not compile them in any comprehensive way. Such States can not tell whether accidents are increasing or decreasing, for they have no way of knowing how many accidents are occurring. On the other hand, in the States where an efficient method of accident reporting has been installed, the officials know whether or not the industrial accidents occurring in one period are greater or fewer than those occurring at another time, and they know in what industries and departments of industries such accidents are taking place, and from what cause. They can therefore intelligently bend their energies to the elimination of specific conditions, instead of wasting time and money on things which have no effect upon the accident rate.

The relation of accident statistics to the reduction of accidents was recognized early in the life of the association, and in January, 1915, a special meeting was called in Chicago for the purpose of devising and putting into practice a uniform system of collecting, classifying, tabulating, and publishing statistics from the different States relative to industrial accidents and workmen's compensation. A committee on statistics and compensation insurance cost was appointed to perform this function, and this is unquestionably the most important committee of the association.

The committee has spent a number of years on this work, submitting a report on some special phase of the question at each annual convention of the association. Its reports have been brought together and published in Bulletin No. 276 of the United States Bureau of Labor Statistics and consist of standard definitions, classifications (of industries, causes of accidents, nature of injuries, and extent of disability), and table forms for accident tabulations. This is the standard plan recommended by the International Association of Industrial Accident Boards and Commissions for the use of its members, and is generally considered the authority on this subject.

Eight years have elapsed since Bulletin No. 276 was published (1920), and radical changes have taken place in industry and in industrial methods. It was therefore thought advisable to revise the standard plan for industrial accident statistics to bring it up to date, and the International Association of Industrial Accident Boards and Commissions is joint sponsor with the National Safety Council and the National Council on Compensation Insurance to work out under the auspices of the American Standards Association a "revision of the classification of industries in the standard plan for accident statistics of the International Association of Industrial Accident Boards and Commissions, definitions of terms, the form of reporting accidents, the computation of accident rates, and the classification of causes of accidents, and also the consideration of possible revision of other features of the plan." That work is now in progress and is going forward as rapidly as possible.

The association recommends that those now installing a statistical system adopt the plan as given in Bulletin No. 276, as the revision will contain some method of coordinating that plan with the revised plan now being worked out.

Workmen's Compensation Legislation

ONE of the questions considered at the beginning was the lack of uniformity in the various workmen's compensation laws. An injury compensable in one State would not be compensable in another, each jurisdiction having its own separate and distinct agency of administration, method of procedure, type of insurance carrier, and other features to make it in some respects different from the law in any other jurisdiction. The question of the desirability of uniformity of legislation for all the States received much consideration in the early meetings of the association, but it was concluded that the association should not go on record as favoring uniformity in such legislation. It did, however, recommend desirable features which a good compensation law should include.

While the association as such has taken no stand as to the relative merits of the State fund and other types of insurance, nor as to the efficiency of the several methods of administration, a search of its proceedings will divulge a number of papers written by the administrators of the various laws, setting forth the advantages and disadvantages of the different systems. Two subjects have been discussed again and again, but upon which accurate information is unavailable—relative benefits under the different jurisdictions on a representative group of specific injuries and relative costs of administration in the various jurisdictions. A resolution was adopted at the 1927 convention that these subjects be investigated and a report made to the 1928 meeting. Owing to the time and financial factors which such a study would involve, no progressive work was done to carry out the provisions of that resolution prior to the 1928 convention, but the subject was there presented and discussed, and the investigation will probably be made when conditions allow.

Though it can not be said that the association has entered the field of politics in any instance, it has worked steadily for the betterment of workmen's compensation legislation. It has kept informed as to the various laws, and willingly furnishes such information to anyone desiring it. On one occasion the secretary upon request appeared before a committee of a State legislature and furnished information and opinion as to suggested changes in the law. The 1928 convention passed a resolution authorizing the secretary to send experts to advise with legislatures relative to suggested legislation when requested to do so. The proceedings of the association contain much discussion of defects and advisable changes in existing laws.

Medical Problems

ONE of the most difficult phases of workmen's compensation law administration consists of the medical problems involved. On the whole, perhaps as much interest is manifested in the medical sessions of the annual conventions as is exhibited in any other one phase of the subject. At these sessions interesting papers are read by au-

thorities on diseases and injuries arising from industrial causes, and these papers, with the discussion which follows, are of great assistance in guiding the workmen's compensation officials in reaching a fair award in cases involving similar conditions.

Standard Permanent Disability Schedule

IN MAKING compensation awards in cases involving permanent injury a number of factors arise to complicate the question. Under the same law two men of different ages may receive the same kind of injury, and yet in all fairness the percentage of disability resulting can not be considered the same, since age is an important factor in the adaptability of a person to changed conditions. Occupation is another important feature to consider. If a structural-steel worker at the age of 35 sustains an injury necessitating the amputation of his leg, his days as a structural-steel worker are ended. He must start again and learn another occupation, while handicapped by the absence of a leg. On the other hand, if a typist at 35 years of age loses a leg, he is extremely unfortunate, but he can go on typing as well as he did before he incurred the loss of his member. It is not necessary for him to change his occupation, and his earning capacity is probably not diminished by his accident. There are also other considerations involved.

This is a phase of workmen's compensation administration where experience and study are most essential, in order to arrive at a fair award. Accordingly, at its eighth annual meeting in 1921 the association authorized the committee on statistics and compensation insurance cost to formulate a standard permanent disability schedule. Such a schedule was prepared by the committee and submitted to the association at its 1922 meeting. The association adopted four of the recommendations of the committee, but referred a fifth, including the permanent disability schedule, back to the committee for further consideration. The committee revised the schedule and it was adopted by the association at its tenth annual meeting in 1923.

In formulating the final standard permanent disability schedule the committee adopted the following principles, and gave the ratings for the principal permanent partial disabilities at various ages, stated in percentages of permanent total disability:

1. The schedule of permanent partial disability compensation shall be for compensation to be paid after compensation has been paid for temporary disability, either total or partial.
2. Compensation for permanent total disability shall be valued on the basis of total disability for life.
3. Compensation for permanent partial disability shall be valued as percentage of permanent total disability.
4. The permanent disability schedule shall be one designed to measure loss of earning capacity.
5. The permanent disability schedule shall be based upon the principle of variable rather than fixed factors. The variable factors to be taken into account shall be (1) nature of injury, and (2) age of injured employee.
6. When the permanent disability is of a character which peculiarly and exceptionally unfits the employee for the performance of the occupation in which he was injured or of any other occupation in which he was experienced, the benefits shall be increased to compensate for the excessive handicap to such a degree as may be determined by the commission, but not more than 25 per cent of the schedule allowances.

Detailed explanation as to the construction of the schedule and the reasons for the conclusions of the committee will be found in the complete report of the committee on statistics and compensation insurance cost, published in Bulletin No. 359 of the United States Bureau of Labor Statistics.

Method of Rating Eye Injuries

EYE injuries and the percentage of impairment therefrom constitute another problem that has confronted those administering the workmen's compensation laws. After much study and discussion at its annual conventions, the association adopted the report of the committee on compensation for eye injuries of the section on ophthalmology of the American Medical Association as a guide for its members in making awards for eye injuries. This report is published in Bulletin No. 406 of the United States Bureau of Labor Statistics (pp. 81-86).

Social Insurance

WORKMEN'S compensation is one of several forms of social insurance. The International Association of Industrial Accident Boards and Commissions called a conference to meet in Washington, D. C., December 5-9, 1916, in order to hear the proponents and opponents of various plans of social insurance, so that its members might be kept apprised of the relation of such proposed legislation to workmen's compensation. The meeting covered workmen's compensation, sickness (health) benefits and insurance, invalidity and old-age insurance, pensions and retirement allowances, maternity benefits and mothers' pensions, and unemployment and savings-bank insurance. The proceedings of that convention are informative as to the various plans in operation at that time.

Claim Procedure

WHILE each State has its own method of claim procedure, it is true that in many cases such methods could be materially improved to the advantage of all concerned. Recognizing this fact, the association appointed a committee on forms and procedure, which after several years of investigation and study recommended standard forms and other suggestions as to improvement of workmen's compensation law administration. Owing to the length of the committee's reports they are not reproduced here, but will be found in United States Bureau of Labor Statistics bulletins, No. 333 (pp. 15-41) and No. 385 (pp. 10-12).

Legal Aid

AT ITS 1924 annual convention the association appointed a committee to cooperate with a committee of the National Association of Legal Aid Organizations to consider the extent to which legal aid organizations could assist industrial accident boards and commissions in the task of administering the workmen's compensation laws. This committee has submitted a report each year since the 1925 meeting, and its work has done much to acquaint the com-

pensation officials with the possibilities and advantages of cooperation between the two organizations in connection with the administration of workmen's compensation legislation.

American Remarriage Table

WITH the exception of that of Oklahoma all of the workmen's compensation laws of the United States provide that, upon the death from industrial accident of a workman covered by the law, compensation shall be paid to his dependents, in most cases for a specified period of weeks. In a number of States the award to the widow includes the words, "Until death or remarriage." Under some laws, upon the remarriage of a widow, compensation payments to her cease; under others she receives a specified lump sum in lieu of future payments; or the period of compensation payment is shortened. Other laws do not recognize remarriage as making any change from the original award.

The insurance carriers must set aside a reserve large enough to secure the payment of such compensation awards until they shall legally cease, and the premium rates which they charge must be sufficient to enable them to accumulate and retain such a reserve. The insurance carriers must therefore estimate the liability of a widow covered by their risks to remarry. Along with mortality tables, the carrier in calculating its rates and its reserves must take into consideration the widowhood expectancy among those of its risks falling within this classification. It must have statistics as to past experience along this line.

For this purpose the table most widely used at present is the remarriage table of the Dutch State insurance fund (*Rijksverzekering-bank*), based upon 10 years' published experience of that fund, which administers the awarding and payment of workmen's compensation in Holland. But marriage is a very complicated proposition, and the conditions that would affect remarriage in Holland are not necessarily the conditions that prevail in America; not to mention the fact that social and economic conditions in the United States as elsewhere have changed so rapidly during the last 10 years that experience prior to that period would not be true in applying to the present time. It is therefore felt that the Dutch remarriage table is not a true measure of conditions in America at this time, and that the use of the table by the States in computing their reserves is apt to be misleading.

Therefore since 1923 the association has been trying to secure from its members the necessary information from which to compile a remarriage table based on American experience. It now has information for more than 12,000 cases involving the payment of compensation to widows, and additional schedules will become available in the near future. This is a larger and more satisfactory volume of data than that which formed the basis of the Dutch remarriage table, and the compilation of an American remarriage table will in all probability soon begin. This work will doubtless be performed by the committee on statistics and compensation insurance cost of the association and will be of inestimable value in the computation of rates and reserves.

Occupational Diseases

THERE is an increasing tendency in workmen's compensation legislation and administrative practice to recognize the justice of placing a workman injured by a disease incurred in line of duty in the same category as the workman injured through an industrial accident. Industry can be responsible for phosphorus necrosis, as it can be responsible for the loss of an arm or a leg through accident.

The program for the fifteenth annual convention, held at Paterson, N. J., in 1928, gave considerable space to the subject of the effect of changes in industrial methods upon the growth of occupational diseases. Past proceedings contain discussion of such diseases as cancer, anthrax, and many others, and their relation to industry as a causative factor. This information is of great value to the compensation officials in dealing with such cases.

Due principally to the lack of adequate information on the subject, the committee on statistics and compensation insurance cost has not yet taken up the question of the classification of occupational diseases. However, the occupational disease code formulated by the National Workmen's Compensation Service Bureau is published in Bulletin No. 276, referred to before.

Conclusion

THE above are some of the specific accomplishments of the association. The value to workmen's compensation officials of participation in its annual meetings, there coming in contact with compensation officials from other States and Provinces and having an opportunity to discuss all phases of their work, can not be expressed in words. Many officials who recognize the importance of such conventions are unfortunately handicapped by lack of State funds to pay the necessary expenses of their attendance, and therefore can not personally use the machinery most suited to their purposes. Indeed, some State laws have been passed forbidding the use of State funds to defray the expenses of the attendance of State officials at any sort of meetings or conventions outside of their own State. So far as this legislation was intended to check mere junketing, it is, of course, entirely justified, but when it forbids State officers to take advantage of the best educational facilities pertaining to their work it defeats its purpose. This difficulty would be solved if the other States would enact legislation such as obtains in Oklahoma, directly authorizing the industrial commission to send delegates to the annual conventions of the International Association of Industrial Accident Boards and Commissions.

Average Construction Cost of Dwellings in Large Cities of the United States

DATA concerning building permits issued in cities of the United States having a population of 100,000 or over are collected semiannually by the Bureau of Labor Statistics. For the first half of 1928 this information was collected from 89 cities. Information concerning building operations in these cities was published in detail in the Labor Review for October.

A phase not touched on in that article, however, was the average cost of the different kinds of dwellings. The figures of the present article show the cost per family of the different classes of dwellings as stated by the prospective builder at the time of application for his permit to build and do not include the cost of the land. There may be a profit or loss between the cost to the builder and the price paid by the home purchaser. The figures should not be interpreted as showing the cost of a dwelling built on identical plans and specifications in each city, for in some cities much cheaper dwellings are built than in others.

Table 1 shows the number of families provided for in the first half of 1928 and the average cost of dwelling accommodations per family in the different kinds of dwellings in each of the 14 cities of the United States having a population of 500,000 or over.

Multifamily dwellings as shown in this table include a few multifamily dwellings combined with stores. It might be thought that the cost per family would be higher in the apartment buildings with stores included than in those without stores. As a matter of fact, taking the cities as a whole, the cost per family was less in the apartments with stores than in those without stores. Individual cities, however, might show different results.

In these 14 cities permits were issued for 30,323 one-family dwellings, the average cost of these dwellings, as stated in the permits, being \$5,169. The city of Washington built the most costly single dwellings, as \$8,534 per dwelling was spent in the capital city for the erection of this type of dwelling. In St. Louis permits were issued for 934 one-family dwellings and their average cost was only \$3,619. The average cost in Baltimore (some 40 miles from Washington) was \$4,001. In other words, the average single-family dwelling for which permits were issued during the first half of 1928 cost over 100 per cent more in Washington than in St. Louis or Baltimore. Whether this means that Washingtonians are building 100 per cent better houses than St. Louisians or Baltimoreans, or are paying more for construction, could be determined only by an exhaustive comparison of plans and specifications in these cities.

There is also quite a contrast between the cost figures as shown for the two Pennsylvania cities listed, the average cost of the one-family dwellings for which permits were issued in Philadelphia being \$4,373, while in Pittsburgh it was \$6,190. The average cost of New York's one-family dwellings was \$5,782, while those of Chicago cost \$6,395.

The average cost per family for two-family dwellings was \$4,356, the range in the different cities being from \$2,279 in Buffalo to \$5,974 in Chicago. Only 14,312 families were housed in this class of dwelling in these 14 cities.

TABLE 1.—AVERAGE COST OF DWELLING ACCOMMODATIONS PER FAMILY IN CITIES HAVING A POPULATION OF 500,000 OR OVER, BY KIND OF DWELLINGS: PERMITS FOR FIRST 6 MONTHS OF 1928

City	Number of families provided for	Average cost per family	City	Number of families provided for	Average cost per family
<i>One-family dwellings</i>			<i>Multifamily dwellings ³</i>		
St. Louis	934	\$3,619	St. Louis	2,264	\$2,063
Los Angeles	3,657	3,847	Los Angeles	7,049	2,180
Baltimore	1,707	4,001	San Francisco	2,097	2,403
Philadelphia	4,733	4,373	Milwaukee	1,190	2,735
Borough of Richmond ¹	648	4,416	Buffalo	488	3,048
San Francisco	1,320	4,445	Pittsburgh	86	3,140
Buffalo	401	4,542	Detroit	2,998	3,344
Detroit	3,526	5,291	Boston	2,198	3,449
Borough of Queens ¹	5,328	5,455	Borough of Queens ¹	10,976	3,499
New York (all boroughs)	8,351	5,782	Borough of Richmond ¹	446	3,590
Boston	320	5,856	Borough of Brooklyn ¹	13,036	3,804
Cleveland	807	5,967	Cleveland	695	3,883
Milwaukee	535	6,094	Baltimore	276	4,112
Pittsburgh	891	6,190	Borough of the Bronx ¹	21,709	4,218
Chicago	2,396	6,395	New York (all boroughs)	54,698	4,406
Borough of Brooklyn ¹	1,632	6,865	Chicago	16,105	5,167
Borough of the Bronx ¹	742	6,939	Philadelphia	1,855	5,395
Washington	745	8,534	Washington	1,369	5,597
			Borough of Manhattan ¹	8,531	7,014
Total (14 cities)	30,323	5,169	Total (14 cities)	93,368	4,214
<i>Two-family dwellings ²</i>			<i>All classes of dwellings</i>		
Buffalo	691	2,279	St. Louis	4,095	2,691
Washington	12	2,792	Los Angeles	11,730	2,823
St. Louis	897	3,309	Buffalo	1,580	3,091
Detroit	2,733	3,486	San Francisco	3,613	3,246
Los Angeles	1,024	3,591	Milwaukee	2,263	3,873
Milwaukee	538	4,184	Boston	3,682	3,900
San Francisco	196	4,195	Baltimore	1,983	4,016
Boston	1,164	4,213	Borough of Richmond ¹	1,247	4,106
Borough of Richmond ¹	153	4,296	Detroit	9,257	4,127
Borough of Queens ¹	1,712	4,447	Borough of Queens ¹	18,016	4,168
Pittsburgh	101	4,625	Borough of Brooklyn ¹	16,986	4,303
Cleveland	464	4,710	Borough of the Bronx ¹	23,237	4,346
New York (all boroughs)	4,973	5,010	New York (all boroughs)	68,022	4,619
Borough of Brooklyn ¹	2,318	5,302	Philadelphia	6,723	4,680
Borough of the Bronx ¹	786	5,440	Cleveland	1,966	4,934
Philadelphia	135	5,624	Chicago	19,885	5,371
Chicago	1,384	5,974	Pittsburgh	1,078	5,800
			Washington	2,126	6,610
Total (14 cities)	14,312	4,356	Borough of Manhattan ¹	8,536	7,019
			Total (14 cities)	138,003	4,438

¹ A borough of "Greater New York."

² Includes 1-family and 2-family dwellings with stores, the number and cost of which are shown separately in the October Labor Review.

³ Includes multifamily dwellings with stores, the number and cost of which are shown separately in the October Labor Review.

Permits were issued during the first six months of 1928 for multifamily dwellings to house 93,368 families, which is over three times as many families as provided for in one-family dwellings in these 14 cities. The average cost per family of the multifamily dwellings was \$4,214, the greatest cost per family being found in the Borough of Manhattan where it cost \$7,014 per family to house the 8,531 families domiciled in apartment houses. New York City as a whole housed 54,698 families in apartment houses during this period and the average cost per family was \$4,406. The average cost per family was \$2,063 in St. Louis and \$5,597 in Washington.

There were 138,003 families provided for in all classes of dwellings for which permits were issued in these 14 cities during the first half

of 1928, the average cost per dwelling unit being \$4,438. The most expensive dwellings were built in the Borough of Manhattan where it cost \$7,019 per family. Considering each city as a whole, however, Washington paid more per family unit than any of the other cities. It cost \$6,610 per family to care for the 2,126 families provided for in Washington during the first half of 1928.

Table 2 shows the number of families provided for during the first half of 1928 and the average cost of dwelling accommodations per family in the different kinds of dwellings in each of the 22 cities of the United States which have a population of between 200,000 and 500,000.

TABLE 2.—AVERAGE COST OF DWELLING ACCOMMODATIONS PER FAMILY IN CITIES HAVING A POPULATION BETWEEN 200,000 AND 500,000, BY KIND OF DWELLING: PERMITS FOR FIRST 6 MONTHS OF 1928

City	Number of families provided for	Average cost per family	City	Number of families provided for	Average cost per family
<i>One-family dwellings</i>			<i>Multifamily dwellings ²</i>		
Dallas, Tex.	411	\$2, 671	San Antonio, Tex.	500	\$1, 134
Birmingham, Ala.	1, 083	3, 003	Birmingham, Ala.	534	2, 041
Seattle, Wash.	1, 405	3, 452	Atlanta, Ga.	484	2, 191
San Antonio, Tex.	1, 140	3, 763	Oakland, Calif.	649	2, 499
New Orleans, La.	241	3, 886	Minneapolis, Minn.	469	2, 739
Oakland, Calif.	548	3, 903	Rochester, N. Y.	625	2, 826
Toledo, Ohio.	710	4, 178	Dallas, Tex.	82	3, 015
Minneapolis, Minn.	647	4, 184	Seattle, Wash.	1, 900	3, 034
Atlanta, Ga.	747	4, 216	Kansas City, Mo.	634	3, 138
Portland, Oreg.	1, 021	4, 320	Denver, Colo.	453	3, 243
Kansas City, Mo.	507	4, 672	Indianapolis, Ind.	517	3, 277
Indianapolis, Ind.	719	4, 699	New Orleans, La.	70	3, 316
Columbus, Ohio.	964	5, 056	Toledo, Ohio.	70	3, 429
Denver, Colo.	683	5, 119	Providence, R. I.	182	3, 788
Louisville, Ky.	490	5, 273	Jersey City, N. J.	807	3, 791
Rochester, N. Y.	445	5, 573	Omaha, Nebr.	25	3, 800
Omaha, Nebr.	168	5, 627	Cincinnati, Ohio.	801	3, 856
St. Paul, Minn.	308	5, 837	Columbus, Ohio.	484	3, 907
Jersey City, N. J.	5	6, 500	Portland, Oreg.	240	4, 373
Cincinnati, Ohio.	980	7, 840	St. Paul, Minn.	38	4, 737
Providence, R. I.	247	9, 612	Newark, N. J.	1, 758	5, 023
Newark, N. J.	30	9, 841	Louisville, Ky.	253	8, 301
Total (22 cities)	13, 508	4, 601	Total (22 cities)	11, 575	3, 457
<i>Two-family dwellings ¹</i>			<i>All classes of dwellings</i>		
New Orleans, La.	866	2, 037	New Orleans, La.	1, 177	2, 491
Atlanta, Ga.	249	2, 114	Birmingham, Ala.	1, 624	2, 692
Indianapolis, Ind.	178	2, 395	Dallas, Tex.	665	2, 769
Oakland, Calif.	27	2, 826	San Antonio, Tex.	1, 728	2, 988
Dallas, Tex.	172	2, 887	Oakland, Calif.	1, 224	3, 135
Seattle, Wash.	14	2, 968	Atlanta, Ga.	1, 480	3, 200
Minneapolis, Minn.	144	3, 401	Seattle, Wash.	3, 319	3, 210
San Antonio, Tex.	88	3, 480	Minneapolis, Minn.	1, 260	3, 557
Toledo, Ohio.	88	3, 607	Kansas City, Mo.	1, 185	3, 849
Louisville, Ky.	71	3, 686	Indianapolis, Ind.	1, 414	3, 889
Denver, Colo.	34	3, 750	Jersey City, N. J.	933	3, 938
Portland, Oreg.	68	4, 000	Rochester, N. Y.	1, 151	3, 989
Columbus, Ohio.	199	4, 119	Toledo, Ohio.	868	4, 050
Birmingham, Ala.	7	4, 129	Portland, Oreg.	1, 329	4, 313
Rochester, N. Y.	81	4, 265	Denver, Colo.	1, 170	4, 353
Kansas City, Mo.	44	4, 614	Columbus, Ohio.	1, 647	4, 605
Jersey City, N. J.	121	4, 814	Newark, N. J.	2, 076	5, 244
Cincinnati, Ohio.	206	5, 078	Omaha, Nebr.	201	5, 574
St. Paul, Minn.	28	5, 207	St. Paul, Minn.	374	5, 678
Providence, R. I.	225	5, 376	Cincinnati, Ohio.	1, 987	5, 948
Newark, N. J.	288	6, 116	Louisville, Ky.	823	6, 067
Omaha, Nebr.	8	10, 000	Providence, R. I.	654	6, 534
Total (22 cities)	3, 206	3, 533	Total (22 cities)	28, 289	4, 012

¹ Includes 1-family and 2-family dwellings with stores.

² Includes multifamily dwellings with stores.

In contrast to the larger cities, it will be seen that these 22 cities provided for more families in one-family dwellings than in apartment houses. In the 14 cities having a population of 500,000 or over, 67.7 per cent of the families provided for were cared for in apartment houses and only 22 per cent in one-family dwellings. In the 22 cities having a population of from 200,000 to 500,000, one-family dwellings housed 47.8 per cent of the total number of families provided for, while multi-family dwellings housed but 40.9 per cent.

The average cost of one-family dwellings in these 22 cities was \$4,601. The cost range of this class of structure was from \$2,671 in Dallas, Tex., to \$9,841 in Newark, N. J.

The average cost of two-family dwellings was \$3,533 per family, ranging from \$2,037 in New Orleans to \$10,000 in Omaha.

Multifamily dwellings averaged only \$1,134 per family in San Antonio, but \$8,301 in Louisville, the average cost in the 22 cities being \$3,457 per family.

The average cost of all dwelling units in these 22 cities was \$4,012 per family. Providence, R. I., provided for 654 families at a cost of \$6,534 per family, while New Orleans provided for 1,177 families at a cost of only \$2,491 per family.

The average cost per family in the cities of 500,000 and over was more for each class of dwelling than in the cities in the lower population group. The cost of one-family dwellings averaged 12.3 per cent more in the larger cities than in the cities having a population of less than 500,000; the cost of two-family dwellings averaged 23.3 per cent higher; that of multifamily dwellings, 21.9 per cent higher; and of all dwelling units, 10.6 per cent higher.

Because of a lack of space, data are not shown separately for cities having a population of between 100,000 and 200,000. In the 49 cities in this population group permits were issued during the first half of 1928 for 16,030 one-family dwellings at an average cost of \$4,502. Two-family dwellings cost \$3,805 per family for the 3,146 families cared for, while multifamily dwellings provided for 9,739 families at an average cost of \$3,801. The total number of families provided for in dwelling houses of all types in these 49 cities was 28,914 and the average cost per family of the dwellings provided was \$4,190.

INDUSTRIAL RELATIONS AND LABOR CONDITIONS

Activities and Functions of a State Department of Labor

THE United States Bureau of Labor Statistics has just published under the above title (as Bul. No. 479) a course of lectures on the various functions and purposes of the New York State Department of Labor, in the belief that it is important for the people of the United States to know what a State department of labor is and what its functions are. Through arrangements made by the industrial commissioner of New York the lectures were given in connection with the required work at several university summer schools during the summer-school season of 1928. The lectures were prepared by the chiefs of the different divisions of the New York Department of Labor and were delivered at the following universities: University of Rochester, Syracuse University, College of the City of New York, New York University, and Columbia University.

In regard to the work being accomplished by State labor bureaus in general, the United States Commissioner of Labor Statistics makes the following statement in the foreword to the bulletin:

No functions of the Government are more widespread or are accomplishing more, considering the tremendous financial odds, than are the various bureaus of labor statistics, yet the work of no State organizations or functions is less understood or less appreciated than that of these bureaus. This is partly due to the fact that they have for the most part so little funds that they have not been able to attract the attention to themselves that other organizations more fortunately equipped have succeeded in doing. However, if one compares the economic literature, both periodical and university textbooks, prior to 1869 with that of to-day, one will realize that it is from the material gathered through bureaus of labor statistics that most of the real facts have been secured.

In May, 1883, a law was passed in New York providing for the establishment of a bureau of labor statistics. This bureau when created consisted of a staff of two persons with appropriations for salaries of \$3,700 and expenses of \$3,000. From this beginning the present department has developed, which for the year ending June 30, 1928, had a working staff of 1,036 persons and total appropriations of over \$2,500,000. The general offices are in New York City but in organizing its work the department has divided the State into five sections with district offices in New York City, Buffalo, Rochester, Syracuse, and Albany. Thus, the work of the department extends to every part of the State. The number of industrial or business firms affected by the laws administered by the department is around 200,000, and the number of wage earners about 3,000,000, covering every variety of enterprise.

The most important functions of the department are the enforcement of the labor law and the industrial code and the administration

of the workmen's compensation law. The department's bureau of inspection has charge of the enforcement of the labor law and the industrial code, the latter consisting of over 1,000 separate rules, each with the force and effect of the law itself, made by the industrial board of the department to make effective the general provisions of the labor law.

Labor Law Enforcement

THE ordinary process of enforcement under the labor law is first an inspection to find out in what points the law, or the industrial code, is being violated. The noncompliances shown by the inspectors' reports are then made the subject of an official order by the department to the employer, or owner of the premises, to comply with the law. More than 300,000 such orders were issued in the last year. A large proportion of them related to administrative matters such as posting of laws or notices, keeping of records, etc. The enforcement procedure consists of two steps: (1) A visit of inspection to find out if the orders have been complied with and (2) prosecution in court for punishment by fine when compliance with the orders is refused. In cases which call for immediate action, the industrial commissioner is permitted by law peremptorily to stop work in the establishments until conditions are remedied. In the majority of cases handled by the department there has been no necessity for resorting to punitive measures. However, there is a certain number of employers or owners of premises who refuse to comply with the orders unless they are compelled to do so, and it was necessary to institute 4,054 prosecutions last year, which resulted in fines aggregating \$33,201. Over half of these cases were brought about by violations of laws concerning the work of women, children, or minors.

Administration of Workmen's Compensation Law

IN THE administration of the workmen's compensation law, the strictly administrative work is performed by the bureau of workmen's compensation and the judicial work of deciding cases is handled by the industrial board and by the department's referees. Hearings are held daily by the referees all over the State, not only in such large centers as New York, Albany, Syracuse, Rochester, and Buffalo, but also in smaller communities, the hearings being held in as many places as possible so that the injured persons may as quickly, conveniently, and inexpensively as possible have their claims passed upon. There are four steps in the procedure of handling these cases, as outlined by the industrial commissioner: (1) Securing the necessary reports of the accident from the employer, employee, and physician or surgeon; (2) examining these records and if necessary preparing the case for hearing by a referee, or by the industrial board on appeal from the referee's decision, which may include not only clerical examination but field investigation or medical examinations by the department's medical advisors; (3) arrangement and holding of hearings by the referees or industrial board and notification of the interested parties as to the award made; and (4) checking up on promptness of compensation payments.

During the year ended June 30, 1927, the total number of accident reports filed by employers was 518,297, although a large majority of them are reported to have been for only trivial or minor injuries not entitled to compensation. The number of hearings held was 414,128 and the number of cases closed, 187,368. Over 50,000 medical examinations were made by the department's medical examiners. There were 98,984 cases of disability of over one week, for which compensation amounting to a total of over \$28,000,000 was awarded.

Accident-Prevention Work

SAFETY inspectors of the bureau of inspection, the industrial commissioner states, are constantly in the field calling at factories, workshops, mercantile establishments, and other work places "pointing out possibilities of accidents arising from dangerous practices upon the part of workers from unguarded machinery, from inadequate lighting, and many other sources. By advice, by instruction, and by issuance of orders, when necessary, many accidents are averted."

The bureau of industrial hygiene also has a crew of safety inspectors who investigate accidents "with a view to the determination of their causes and the best method of prevention." Their findings and recommendations are printed and distributed to employers, safety workers, and other interested persons. This bureau has also produced a number of safety films, based upon actual working conditions found in factories and other work places, which are said to have aroused much interest. These films have been exhibited before large numbers of workers in the cities and smaller communities of the State. During the winter of 1926-27 a series of lectures on the department's work along accident-prevention and other lines was given by the industrial commissioner and the heads of bureaus of the department before teachers in the continuation and vocational schools of New York City, Buffalo, Rochester, Syracuse, Schenectady, and Oswego, at the request of State and city educational authorities.

The department of labor holds an annual industrial safety congress in the State during the month of November, where employers, employees, and others interested in the welfare of workers "meet to discuss and devise means for the improvement of industrial relations, particularly from the angle of 'safety while at work.'"

The department also aims to prevent diseases arising from the nature of the work in certain industries. As an example of its work in this connection is mentioned its requirement that exhaust systems be installed to convey dust, fumes, and gases away from the operators to the open air or to some receptacle. The industrial commissioner believes that the decrease in tuberculosis "is in part due to this protection afforded the great army of workers in industry."

Placement of Workers

THE department of labor maintains public employment offices in several of the more important industrial cities of the State. During the year ending December 31, 1927, these offices obtained jobs for 58,457 men, 51,324 women, 14,694 boys, and 10,097 girls, a total of 134,572 placements during the year. Positions are found for many different classes of workers—farm hands, mechanics, laborers,

clerical workers, teachers, and professional men and women. No charge is made for this service.

Especially careful attention is given to securing proper work for boys and girls. The placement worker visits many factories and other places of employment to discuss with employers the opportunities in their plants for young workers. The likes and dislikes of the boys and girls in relation to work are considered, as well as the various kinds of work which they are mentally and physically able to do. After a job has been found for a child he is encouraged to return to the placement worker from time to time for further advice and information. At regular intervals follow-up letters are sent both to the employer and to the employed child inquiring if everything is satisfactory. If the child complains about working conditions the employer is visited.

Settlement of Industrial Disputes

THE State law authorizing the maintenance of the department of labor provides that the industrial commissioner "shall inquire into the cause of all strikes, lockouts, and other industrial controversies, and endeavor to effect an amicable settlement thereof, and may create within the department a board to which a controversy between an employer and his employees may be submitted for mediation and arbitration." In accordance therewith a division of mediation and arbitration was created, the duties of which are indicated in the above quotation.

Report of Massachusetts Minimum Wage Commission for 1927

THE annual report of the Department of Labor and Industries of Massachusetts for the year ending November 30, 1927, contains the report of the minimum wage commission, in which it is stated that "the duties of the minimum wage commission under the law comprise the following functions: Investigating the wages of woman employees in occupations when there is reason to believe that the wages of a substantial number are below the requirements of healthful living; establishing wage boards to recommend minimum rates of wages for women and minors; entering wage decrees based on the recommendations of the boards; inspecting to determine compliance with the decrees; and publishing the results of its findings."

The report contains a summary of the work in 1927, covering inspection, the work of the wage board, publications, and conferences and hearings. During the year two minimum-wage decrees were made effective, the principal facts concerning which are found in the following table:

MINIMUM-WAGE DECREES MADE EFFECTIVE DURING 1927

Kind of work covered	Workers affected		Minimum weekly wage rates
	Class	Age	
Jewelry and related lines-----	Experienced ¹ females of ordinary ability	20 or over-----	\$14.40
	All others-----	Any-----	12.00
Toys, games, and sporting goods--	Experienced ² females of ordinary ability	18 or over-----	13.50
	Learners and apprentices-----	16 or over-----	12.00
	All others-----	Any-----	10.50

¹ With at least 6 months' experience in the occupation.

² With at least 1 year's employment in the occupation.

An Australian View of Industry in the United States

WHEN in 1927 the Australian Government sent a delegation to the United States to examine and report upon its industrial conditions, a representative of a group of Australian newspapers accompanied the mission and shared its opportunities for studying American methods and conditions. Recently this observer has issued a book,¹ based upon articles prepared for his papers during the trip, giving his conclusions as to the industrial situation in the United States as compared with that of Australia.

There is no possibility, in his view, of transferring to Australia the methods which have been used so successfully here, because Australia has not the home market the United States possesses, it has not our natural resources, and it has not our supply of docile labor. Australian workers he believes would not tolerate the conditions which here are regarded as a matter of course. America is an employers' paradise, he concludes, and that it is so is largely due to the labor situation, which he discusses at some length.

The outstanding fact concerning industry in the United States is mass production, and the dominant feature of mass production is machinery. The machine has been developed until out of every 100 men employed in a mass-production factory only 10 require any technical skill.

These 10 are the men who keep the machines in running order—the mechanics and the toolmakers, whose skill is not used in making the product of the factory but only in making the machines that make the product. The others are employed fetching and carrying for the machines, taking the product off one machine and fitting it to the product of another, doing their narrow job with the mechanical efficiency which comes from endless repetition.

As the 90 per cent have no trade and require no skill which can not be easily and quickly attained, it is possible to replace any one of them at a moment's notice by another drawn from the great pool of untrained workers always looking for a job, a situation which makes for docility on the part of labor.

The worker who says "I will not do the job this way," meets the worker who will do it any way he is told to do it coming in at the factory gate as he goes out. The employer need not worry, for the only essential service that he demands is that a man shall stand in his place and keep on doing the one thing as he has been taught to do it.

Another factor making for labor's submissiveness is its unorganized condition. There are several reasons for the weakness of unionism in the United States. The abundant supply of unskilled labor makes organization difficult, but the attitude of the trade-unions themselves and the policy of the employers are even more important factors. The unions, the author considers, take a narrow view of their functions, and are but little concerned about labor as a whole.

The American unions are organized on a craft, not an industrial, basis. Each is formed strictly for the benefit of those engaged in the particular trade, and does not consider it any part of its work to worry about the workers outside that trade. The unskilled worker who belongs to no trade is nobody's business. From that it is easy to arrive at the reason for the failure of unionism to gain a hold in the mass-production industries. The bulk of the labor in these industries is unskilled, and there are no unions for unskilled workers.

¹ Adam, Hugh Grant: *An Australian Looks at America*. London, George Allen & Unwin (Ltd.), 1928.

The policy of the employers is even more effective than the lukewarmness of the unions, and on this point the author dwells at some length.

An essential condition of mass production is that each individual worker shall place himself unreservedly in the hands of the management. The circumstance that made mass production possible and that must be continued if its prosperity is to continue, is that unskilled labor is unorganized. The controllers of these great industries recognize the position. They are aware that when once unskilled labor becomes organized and can be directed by union leaders, their day of trouble begins. Their continued prosperity depends upon the subservience of their workers. So they have deliberately gone out of their way to do part of the work of the unions.

I give them all credit for their strategy. They have asked themselves what material advantages have the unions won for the workers in industries that have fallen victim to unionism? With good grace they have given these advantages to their workers, and also others that are new. But note the difference: It is they who are giving them out of generosity, and not the workers who are winning them as a right. Unions are formed through grievances and thrive on disaffection. The mass-production corporations in America spend much thought and large sums of money to make it difficult for their workers to think that they have grievances. Labor leaders frankly admit that they can not organize these workers. Each man has been bought in an individual bargain, and his neighbor's case stands in no relation to his own.

The author fully admits that there may be a great deal of real kindness on the employer's side, but that does not alter the fact that he gives these benefits because it pays, and it pays because if the men once got together and began obtaining these advantages as a right, not as a favor, inevitably they would develop a spirit of independence and rebel against some of the conditions necessary for the success of mass production. The author looks with real horror on the speeding up, the inhuman monotony, the purely mechanical work due to the infinitesimal subdivision of labor, and the long hours which are part of the system. These are things the Australian worker would refuse to accept, even though higher wages than those of America went along with them.

Examining American wages, the author does not consider them really high. Members of skilled and organized trades are well paid, though even they suffer from seasonal or otherwise irregular work, so that their incomes are not commensurate with their wage rates. For the less fortunate workers, earnings, owing to broken time, are lower than wages, and wages, compared with the cost of living, can hardly be called high. The average standard of comfort in which the Australian worker lives could not be maintained in the United States on the average earnings received here.

This situation is disguised, partly by the amount of welfare work done by the successful employers, and partly by the prevalence of the installment system of buying, which has led many workers into purchases which it is doubtful whether they can really afford. This, too, plays its part in making American workers accept passively conditions which the Australian would consider intolerable.

I think that the most striking thing about labor in America is, that it has become the slave of the paymaster. In Australia men value their hours of leisure too highly to sell them for any wages. In America men can be got to work under almost any conditions for almost any hours if it means extra pay. It is not my explanation, but that of the manager of a great American factory who told me that one reason for this is that the worker is so heavily involved in paying off installments upon articles he has purchased on time payment, that only by making extra wages can he have any money to meet the unexpected demands, the incalculable necessities of life.

One feature of the American system the author thinks might well be adopted by Australia, with the modifications which the unionization of their workers would make inevitable. The piecework system of payment, fairly administered, he considers would be advantageous to worker and employer alike. His one objection to it in the United States is that the basic rate is fixed by the employer. Let employers and workers decide together on a fair rate, and then keep to that rate as is done here, and the author feels that the result would be a marked improvement over the time rate of payment.

To sum up, the author feels that mass production in the United States is so closely connected with conditions not prevailing in Australia that it is neither possible nor desirable to introduce its methods there. He is rather doubtful how long these methods will be successful even in this country; they have flourished in the time of our prosperity, but as yet they have not been tested by a period of industrial depression, nor is it certain how they will meet the growth of a spirit of real unionism among the workers. Certain specific features of industry in the United States might well be adopted by Australia, but only under the safeguard of unionism as it is there understood. In terms of human value, the Australian worker is better off than the American, and he will be wise to scrutinize carefully any changes it may be proposed to introduce.

Factory Conditions in Burma in 1927

THE annual report of the chief inspector of the Burmese factories states that the factory act is being extended to cover small factories of specified classes employing 10 but under 20 persons. Under former regulations, the act was confined to factories employing at least 20 persons, and the number of the smaller factories has increased to a degree which seemed to demand attention. During 1927 a special investigation was made of such mills.

The inquiry revealed a definite tendency in many places, very marked in one particular district, to build smaller rice mills than formerly. The cheapness and efficiency of the smaller German milling plant now on the market no doubt account partly for it, and the fact that such plants can be worked with less than 20 persons and thus escape legislative control is a further strong inducement to their purchase. One mill owner put up two such mills in one compound and was not at all pleased to find that they could be grouped together and registered as a single factory. These small mills are undoubtedly competing very effectively with the older and larger ones, and have the unfair advantage that their working hours are unrestricted. As mentioned in last year's report also the machinery in most of them is unfenced and provides grave risk of accident.

Data as to wages and hours are unsatisfactory, owing to the highly irregular working of many of the establishments. The rice mills, for instance, will commence milling at such time in the morning as a batch of paddy arrives from the jungle. They may work on one day from 5 in the morning till noon, and on the next from 10 a. m. till 10 p. m. The workers live near at hand and can be called together at short notice, so that no regular hours are required. Wages, of course, vary correspondingly.

The average daily number employed during 1927 in the factories covered was 101,353, made up of 89,772 men, 10,492 women, 778 boys, and 311 girls. This was an increase over the corresponding figures for 1926 of 220 men and 1,111 women, with a decrease of 251 in the number of children.

SMALL CLAIMS COURTS

One Year's Operation of Des Moines Conciliation Court

A PLAN for assisting individuals in the collection of wage claims by cooperation with the municipal court in Des Moines, Iowa, was changed by the creation of a conciliation or small-claims court in that city on September 1, 1927. This court after one year of existence, apparently has proved to be of real value.

The need for the court in Des Moines is only partly shown by the following figures: In the year 1926 the cost of juries in the municipal court of Des Moines was \$9,780. There were 130 cases tried by juries, making an average cost per case for jury fees of about \$75. There was taxed to the litigants a jury fee of \$6 for each case, leaving a net cost to the public of \$69 for every jury trial. In the same year there were filed 4,535 civil cases, more than 2,500 of which (nearly 60 per cent) were for \$100 or less and more than 1,200 for \$50 or less.¹

During the first year of its existence (September 1, 1927, to August 31, 1928) 2,226 cases were actually docketed in the conciliation court. In addition to these between 500 and 600 cases were disposed of without docketing, of which no record was kept. Thus, there were handled in the conciliation court during the first year of its existence, approximately 2,800 cases.² About 90 per cent of the conciliation cases can be settled at a cost of \$1 per case to the parties. The great saving to the public of taxes for the upkeep of the jury system, and to the litigant who is saved court costs and lawyers' fees, is evident from these figures.

The Iowa law (ch. 478, secs. 10820-10824 of the Code for 1924) authorizing the creation of the conciliation court provides as follows:

SEC. 10820. Rules for conciliation: The judges of the district court for their districts, the judges of the superior court for their districts, and the judges of the municipal court for their districts may adopt and enforce rules prescribing the manner of settlement of controversies by conciliation and the duties of the clerks of the several courts in respect thereto; may appoint conciliators or any judge may act as such, but no judge shall preside at the trial of any action involving a controversy in which he has acted as conciliator.

SEC. 10821. Procedure: No party shall be represented by counsel, except by consent of the conciliator. The proceedings shall be informal and no record thereof shall be preserved except the agreement of settlement signed by the parties. The judge may direct the same to be filed in the office of the clerk and judgment to be entered thereon.

SEC. 10822. Condition to maintaining action: In districts in which rules for conciliation are adopted and the conciliators appointed no person may maintain an action for the recovery of a disputed claim of \$100 or less unless he alleges and proves by certificate of the conciliator that he has made a good faith effort to settle the controversy.

¹ Open letter of H. H. Sawyer, judge and conciliator, to the citizens of Des Moines, Feb. 10, 1928.

² Letter of H. H. Sawyer, judge and conciliator, Sept. 15, 1928.

SEC. 10823. Exceptions: The preceding section shall not apply to suits aided by attachment, or to enforce a lien, or for replevin, or upon written contracts when due, or in cases where the petition states that the defendant is about to change his residence from the county, or where either party to the controversy is a nonresident of the county in which the conciliator is acting.

SEC. 10824. Speedy determination: Such judges shall adopt rules for the speedy determination of causes involving comparatively small amounts, as stated in such rules, and the clerks shall enter such causes upon a separate short cause calendar. It shall be the duty of the court to set aside a day or days each week when such causes will be heard. Before entering upon the trial of any such cause, the judge or court will, if practicable, bring the parties together and endeavor to secure a settlement thereof by conciliation or arbitration.

On September 1, 1927, the municipal court of the city of Des Moines set up a conciliation court with one of the judges, of the municipal court as conciliator.

The rules of the court provide that one of the municipal judges shall act as conciliator for a period of one year. In case of the absence or inability of the conciliator to act, any other judge may have charge of conciliation cases, but no judge may preside at the trial of any action involving a controversy in which he has acted as conciliator. Any person having a claim within the jurisdiction of this court may appear before the conciliator and state his claim without formality or written pleadings. If the conciliator finds that it is a proper case for conciliation, he notifies the defendant and attempts to adjust the claim. If the conciliator is satisfied that it is not a proper claim for conciliation, the claimant may file his suit in the municipal court in the usual manner, but no claim of \$100 or less may be filed in the municipal court until an effort has been made in good faith to settle the claim by conciliation, and a certificate to that effect shall be furnished by the conciliator. (Exceptions to this are suits aided by attachment, or to enforce a lien, or for replevin, or upon written contracts when due, and cases where the petition states the defendant is about to change his residence from the county, or where either party to the controversy is a nonresident of the county.)

When a claim is filed with the conciliator, he notifies the defendant, stating the amount of the claim, by whom made, and its nature, and fixing a time for the hearing of the same; or any one may commence an action before the conciliator by having served upon the defendant an original notice in the usual manner, to appear before the conciliator. If a defendant, having been served with an original notice to appear before the conciliator, fails to do so, the case may be docketed by the claimant and judgment entered in the usual manner; if notification was oral, or by telephone or mail, and the defendant fails to appear the conciliator may, at his discretion, order the case to be filed in the municipal court and an original notice to be served upon the defendant, with or without prepayment of costs, or he may make any other order in the furtherance of justice.

At the hearing the parties may present their case either in person or through a representative.

Hearings are informal, and the rules of evidence and swearing of witnesses may be suspended or the conciliator may swear the witnesses and take evidence, whichever procedure appears to be most conducive to a settlement of the controversy. Information obtained

at hearings is confidential and may not be used against the one giving it or in the trial of such case afterwards.

In case of failure to settle the controversy, the conciliator, upon the request of either party, must furnish a certificate that an effort has been made in good faith to conciliate the case, and permit him to commence his action in the municipal court.

No further record is kept of cases fully adjusted by the conciliator, but when the settlement agreed upon is not fully paid or executed it is reduced to writing, signed by both parties, and filed with the clerk of the municipal court, and thereafter judgment may be entered thereon at the request of either party, or by direction of the conciliator or any judge of the municipal court.

A fee of \$1 is charged for each case adjusted; there is no charge for cases in which a settlement is not effected.

WOMEN IN INDUSTRY

Effects of Labor Legislation on Employment Opportunities for Women

AT THE Women's Industrial Conference held in Washington in January, 1926, under the auspices of the Women's Bureau of the United States Department of Labor, a discussion arose as to the effects of legislation applying only to the employment of women. One group participating in the discussion took the position that such legislation handicaps women in securing and retaining employment, and urged that the Women's Bureau make a study to ascertain the facts. The suggestion was approved by the conference and a resolution was adopted recommending that the Women's Bureau "make a comprehensive investigation of all the special laws regulating the employment of women, to determine their effects." The Women's Bureau undertook the investigation and is now publishing the findings as its bulletin No. 65, "The effects of labor legislation on the employment opportunities of women."

The effects of regulatory legislation were studied in five important woman-employing industries (boot and shoe, clothing, electrical products, hosiery, and paper box), in stores and restaurants (waitresses), and in industries operating longer hours than were permitted for women. In addition, the following special groups of workers were studied: Elevator operators, pharmacists, street-car conductors and ticket agents, core makers, women in the metal trades, and women in printing and publishing. The effects of prohibitory legislation were considered in connection with the occupations of grinding, polishing, and buffing; welding; meter reading; and taxicab driving, although in the case of taxicab driving the law in the one State (Ohio) where it was a prohibited occupation for women has been repealed since the present investigation was begun.

In total, schedules were secured from 1,661 establishments having 500,223 male and 165,244 female employees, and personal interviews were held with more than 1,200 woman workers "who had experienced a change in the law or who were employed under conditions or in occupations prohibited for women in some other State."

The many localities covered in the investigation were scattered through the States of California, Illinois, Indiana, Massachusetts, Michigan, New Hampshire, New York, Ohio, Pennsylvania, Rhode Island, and Wisconsin.

The findings of the investigation and the conclusions reached are summarized by the Women's Bureau in a section of the report, as follows:

Regulatory Legislation

CONSIDERING first the women in manufacturing industries, who are a fairly homogeneous group in regard to the requirements of their employment and the possibilities of adjustment to the

standards set by legislation, there are three types of legislation applying to women only, the effects of which have been considered: First, daily and weekly hour limitations; second, prohibition or regulation of night work; and, third, the requirement of special working conditions.

Hour laws in Manufacturing Industries

As regards the application of hour laws to the women in five important woman-employing industries, this investigation has shown that such legal limitations of women's hours of work have not brought about any degree of substitution of men for women. Two minor isolated cases in hosiery plants, where men had been substituted for women because the women could not work more than nine hours a day, were the sum total of bona fide instances found of decreased employment for women resulting from the enforcement of hour legislation in these five industries. From the many interviews held with employers it was apparent that they engaged women for certain work because they wanted women for that work, and the legal limitation of women's hours did not prevent their doing so. Nor was it the legal limitation of hours that kept women from being promoted to supervisory positions. Very few woman supervisors were found in the States where legislation restricted their hours, but there were equally few in the States where legislative standards were so liberal as to be practically nonexistent.

In another group of manufacturing establishments—those employing men longer hours than were permitted for women—a slightly different situation had resulted from the legislation limiting women's hours of work. Here, also, there was no evidence of any decrease in women's employment because they could not work so long as could men, but in a comparatively small number of cases there might be additional jobs open to women if they could work longer hours. These jobs, however, bore no evidence of especially valuable occupational opportunity.

Without the limitations of the hour laws some women undoubtedly would be employed much longer hours, but in most of the establishments operating longer hours for men than were legally permitted for women the women's work was so adjusted that it could be performed during a shorter period, and there was no need of their extended employment. In some cases it was customary to put men on women's work for the overtime hours necessary. This did not involve a replacement of women but was merely an adjustment to prevent their working longer hours. Most significant of all is the fact that more than half the employers who required of men longer hours than were legal for women stated that they would not employ women for such hours even did the law permit it.

On the whole, legislative hour restrictions of women's work play a very minor part in influencing their position and opportunities in manufacturing industries. Employers have very generally accepted the fact that long hours do not make for efficient production. Competition between firms often leads to decreased hours so that a better type of labor may be attracted, and cases even were reported of a reduction in hours to lessen the competition for labor resulting from a legal standard of short hours for women in a neighboring State.

It is not unusual for manufacturing establishments to reduce hours, and such reductions, from whatever cause, commonly are not looked upon as handicaps to employees. In States with 48 or 50 hour laws for women these laws have been the main factors in causing reductions of hours in woman-employing industries; but they were not by any means the only factors, and many reductions in hours have occurred as part of the normal development of industrial standards without producing any serious upheaval in employment policies.

Not only have there been practically no instances of actual decreases in women's employment as a result of hour legislation, but the general status of their opportunity seems not to have been limited by this type of law. Women were employed as extensively in California as in Indiana, in Massachusetts as in New York. In fact, because in certain States women can not work overtime, the result in some cases has been not a restriction of their employment but increased opportunity for them. This is due to the fact that, in States where women's hours are so limited that they can not work overtime, it is not unusual for establishments to employ additional women when there is extra work or else to carry a larger force of women the year round in order to be prepared for the rush seasons. In States where there is little or no legal regulation of women's hours the establishment may, instead of employing extra women for these rush periods, keep the women already on the rolls for very much longer hours. One of the most important effects of hour legislation on women's opportunities is, therefore, to increase the number of jobs available for them.

Further illustration of the fact that hour laws have not limited women's opportunities in industry was given by the actual experiences of working women who had been employed at the time when some hour legislation went into effect. Not one woman had found that such legislation had handicapped her or limited her opportunity in industry. As a result of the laws, hours had been decreased for the majority of women, but this was the only result experienced generally enough to be significant.

Night-Work Laws in Manufacturing Industries

So much for the daily and weekly hour laws applying to women in industry. Night-work laws have a different story. If a plant carries on women's occupations during hours when women may not be employed, the alternative is to put men on these occupations. However, the important fact about this situation is that such substitution occurs in less than half the plants that operate at night. It is much more usual to find that the plant that operates a night shift does not run at night the occupations on which women normally are employed. There is an astonishingly strong feeling among employers in industry against the employment of women at night, irrespective of legal regulation. Night work, considered undesirable for men, is considered very much more undesirable for women.

There are, of course, an appreciable number of employers who would like to use women when the night shift includes women's occupations. In most of such establishments, however, the fact that

this can not be done does not decrease the day work of women. Instead, women are employed as fully as possible during the daytime, and the substitution of men on women's jobs at night is the extent of the restriction of women's employment resulting from the night-work prohibition.

Though this is true in by far the greater number of plants running women's occupations at night, sometimes the fact that women can not be employed at night reduces or eliminates their employment during the daytime. However, this occurs not only under the legal prohibition of night work; one of the most striking examples found of such a situation was in a State where there is no night-work law for women. In some plants that run on a three-shift system it is customary for the employees on the different shifts to change from one to another at stated intervals, in this way each taking a turn at the day, the evening, and the night shifts. Where the law prohibits women's work on the night shift their employment in such plants may be limited on the day shift also because of the necessity for rotating shifts.

On the whole, in most localities and industries night work for either men or women is frowned upon and is decreasing. The majority of employers in industry consider night work to be even more undesirable for women than for men and they would not employ women at night even if the law permitted. But in some establishments women would be employed at night if the law permitted, and in an even smaller number of cases increased numbers of women might be employed in the daytime if they could work at night. To this extent the night-work laws restrict women's opportunity.

Laws Regulating Working Conditions in Manufacturing Industries

In addition to the legal limitation of hours and night work for women in industry there are regulations that stipulate certain working conditions and sanitary arrangements where women are employed. This type of legislation is almost entirely a reflection of the standards of efficient management, and as such its effects in terms of women's employment are extremely difficult to measure. It is not likely that many establishments will be found that refuse to employ women because they must have a separate lavatory or service facilities. The provision of chairs is another minor matter so closely allied to efficiency and production that it can not be measured easily in terms of possible discrimination against women. There is one type of working-condition requirement, however, that has caused considerable discussion and that it has been possible to investigate. This is the legal stipulation that special partitions and ventilating devices shall be provided when women are employed in core rooms. It has been claimed that the requirement of such devices and the restriction of the weight that women may lift have resulted in the elimination of women from this occupation. In the State of Massachusetts such regulations went into effect in 1917, but there is no evidence that any plant dismissed women or curtailed their employment because of the requirement of partitions and special ventilation. There were plants that had cut down the number of woman core makers for other reasons, but the regulation in question so obviously was the standard accepted by the industry that it

had little effect on women's employment. The regulation requiring that women should not be allowed to carry core and core box whose combined weight was more than 25 pounds perhaps had proved a slight handicap in one or two cases, though in the majority of establishments women were working on such small cores that this regulation had no effect on the work they were doing. In one or two establishments the employer stated that he would have tried women on larger cores had it not been for the need to watch weights carefully lest they infringe the law. It does not seem likely, however, that this can be a serious handicap to women, as in the very large majority of core rooms they were found to be working on small cores requiring the delicate touch of light fingers. Such work commonly is accepted as the type on which women are most successfully employed.

Hour Legislation in Stores

Legislation applying to women in stores is somewhat different in its effect from that applying to women in manufacturing industries. Undoubtedly it eliminates excessive hours for store employees on Saturday. The effect on general daily hours probably is not so marked as in industry, for in custom the prevailing store hours are comparatively short. But the most important part played by hour legislation in stores is the elimination of competition in the matter of hours among individual establishments in a community. The hours during which a store remains open are peculiarly subject to the standard set by competing establishments, and the enforcement of a legal maximum for women has made possible standardized hours that are freely indorsed by the store managers.

The problems of adjusting women's hours in stores to the requirements of the law are less numerous and difficult than those in industry, chiefly because of the difference in the overtime requirements of the two types of work. In stores overtime is only occasional, for certain definite periods that are known well in advance. At times it is possible to handle certain of the overtime requirements by rearrangement of schedules, letting off some employees for part of the day so that they may remain on duty later. For other emergencies it is possible to take on extra workers. A very considerable group of stores have so arranged their work that they never need overtime, while others operate under hours so well within the law that some overtime for the woman employees is legal. For these reasons hour legislation has not been a factor in limiting women's opportunity in the general run of store positions.

In buying and supervisory positions, also, the status of women generally is not influenced by such legislation, but in a very few cases it is possible that legislation has had a part in closing to women certain of such positions. This occurred in a total of 4 of the 54 stores studied. Even in these cases, however, it was evident that legislation was not the only cause of this condition.

Hour and Night-Work Legislation for Woman Waitresses

The application of hour legislation to women employed as waitresses in restaurants presents certain problems that are more or less peculiar to this type of occupation. The average restaurant must be

open much longer than the hours permitted for women under most legal codes. In fact, many restaurants give 24-hour service. Night work often is necessary, and many restaurants are open seven days a week.

With such requirements restaurants must resort to the employment of more than one shift of workers. The principle of adjusting employees' hours to certain standards, therefore, has of necessity been accepted already in these establishments, and the problem of enforcement of hour legislation for women in such employment is to see that the adjustments required do not conflict with the needs of the work so as to handicap the employment of women.

Daily and weekly hour limitations for waitresses have not placed them at a disadvantage in getting employment. The legal standard for waitresses in restaurants is very largely accepted by employers for waiters also.

With the night-work law the situation seems to be somewhat different. In States where there is no night-work law waitresses are employed at night, though the extent of such employment varies with locality and type of restaurant.

The actual value of the opportunity closed to waitresses by night-work laws is more open to question than is the fact that such laws shut women out of a certain number of jobs. On the whole, women usually are not employed in the type of restaurant where employment after 10 o'clock at night would be especially desirable. The restaurant that gives formal service, where the waiters get high tips, that runs special suppers after the theater, usually is not one that employs women for waiting at table. There is a very general feeling among managers of what might be called first-class restaurants that the public desires men for the type of service expected in such places. In the less elaborate type of restaurant, where there is a combination of counter and table service, waitresses are likely to form a considerable proportion of the persons employed. In such restaurants, however, service during the night hours can hardly be considered especially desirable. The restaurant where the largest group of women are employed, and where they are employed almost exclusively, is the lunch or tea room type of establishment. Women are especially desired here because it is felt that they give a homelike touch to the service and that they are neater and daintier in their work and appearance. Such establishments rarely are open as late as 10 o'clock at night.

Occasionally the more expensive and exclusive restaurants employ waitresses, and in some of these women might be employed at night if it were not prohibited by law. The indications are, however, that such opportunities would not be very widespread and that the restriction of the night-work law as it applies to waitresses in restaurants is not the main factor that prevents their being employed in the places where "the tips are highest and the work is lightest."

Legislation Applying to Special Occupations

In addition to the work of women in factories, stores, and restaurants, many special occupations have been affected one way or another by legislative restrictions. These occupations can not be

grouped, as they present very distinct requirements, and the effects upon them of the laws are not alike. Individually they illustrate, however, some of the most important factors that should be considered in estimating the effects of legislation.

Elevator Operators

Elevator operating is an occupation of minor importance in questions of opportunity and advancement of women, and yet it provides an interesting illustration of the effect of legislation on women's employment in an occupation that only recently has been opened to them and in which they are in direct competition with men.

Daily and weekly hour limitations and night-work prohibitions have not handicapped women's employment as elevator operators. The average building superintendent does not want to employ women for this work at night, and only in rare cases, even where there is no legal standard, does he require of woman operators daily or weekly hours longer than those usually permitted by law.

Laws prohibiting the employment of women on freight elevators and requiring for woman operators of passenger elevators one day of rest in every seven and the provision of seats have in a very few cases played a small part in limiting women's employment.

On the whole, however, in this work there are well-defined lines between the types of service required of man and of woman operators and between the types of service at which the two sexes excel. It is this fact that determines opportunity for woman elevator operators, and not legislative regulations applying to their work.

Street-Car Conductors and Ticket Agents

The occupations that perhaps have been most prominently cited as examples of the effects of legislation on women's employment are those of street-car conductor, guard, and ticket agent. In the various States several different types of legislative regulation have been applied to such work for women. These include the limitation of daily and weekly hours, the prohibition of work after 10 p. m., and requirements that the working hours be consecutive and that certain sanitary and service facilities be furnished. The requirement last mentioned may be dismissed as not especially significant; in most cases of women's employment such facilities are furnished as a matter of course and probably would not influence seriously an employer's selection of women for any occupation.

The effect of the other types of laws is by no means clear. It is certain that in some cases their enforcement has been followed by wholesale dismissal of woman conductors and ticket agents. On the other hand, many other influences were acting to bring about the dismissal of woman street-car conductors, while woman ticket agents still are being successfully employed in other localities under conditions better than those required by the laws that appear to have been the cause of women's dismissal.

It is true that certain requirements peculiar to the work evidently were not allowed for in drawing up some of the legislation applying to women employed in transportation. Such employment offers unusual problems. It must be adjusted to cope with the rush periods

that come at widely separated hours of the day, for a transportation company usually must have its maximum number of employees on duty at two peaks of traffic 10 or 12 hours apart. If women's employment is subject to a legal requirement that hours of work must be consecutive, it is obvious that it will be difficult, if not impossible, to adjust their schedules to meet the law and at the same time provide for the necessary number at hours of congestion.

The prohibition of night work for women also offers serious problems of adjustment in transportation work where one of the requirements is to give continuous service. To meet this requirement employees of transportation companies work on different shifts, some of which are desirable and others of which are not. To adjust the allocation of employees to these shifts it has been necessary to resort to a scheme of seniority rights by which the person with the greatest seniority may choose his or her shift. If women are not allowed to be employed during the period at night when certain of the shifts occur, and if women are the most recent comers and therefore have the lowest seniority rights, they can not fit into the scheme of seniority choice and their employment becomes more complicated.

On the face of it, therefore, it would seem that such legal requirements effectually would prevent women's employment in transportation. This apparently has been the case in some companies. The accuracy of this conclusion is impaired somewhat, however, by the knowledge that, while one company was laying off its woman conductors because it could not meet the requirements of the law, another company in the same city, operating over a State line and therefore not under the law, stopped employing the woman conductors who had been taken on during the war simply because this had been merely emergency work for women and there was no intention of keeping them on after the men returned. The latter company also employs woman ticket agents for more not than nine hours a day, and it employs no women after the hour of 10 p. m. It is apparent, therefore, that a transportation company can make a certain amount of adjustment to meet modern standards for women's employment, and that, in the instances studied, legislation was by no means the sole influence determining the conditions under which women would or would not be employed.

The entire situation with regard to the effects of legislation on women's employment in transportation is so complicated and subject to so many exceptions that it can not be summarized briefly. Investigations of the many different phases of the subject have shown, however, that the part played by legislation in bringing about the dismissal of woman street-car conductors and ticket agents has been by no means so important nor so far-reaching as was indicated by the agitations at the time they occurred, and that whatever the part legislation may have played in connection with women's employment in transportation it can not possibly be interpreted as typical of its effects on any other occupations of women.

Women in the Printing Trades

The effect of hour limitations and night-work prohibitions on the employment of women in printing and publishing is another phase of legislative regulation that has aroused much controversy. These

women are working in a trade that is highly organized and for which short daily and weekly hours are customary. Therefore, laws limiting the number of daily and weekly hours that women may work have had little effect, because their usual hours are shorter than, or at least as short as, those stipulated by law.

On the other hand, for some women in the printing trades night-work prohibition has proved to be a handicap. A large part of the publication of morning papers and some of the work on afternoon papers necessarily is night work. For many occupations in such establishments it is customary to allocate employees to the various shifts by their seniority rights, a system similar to that in force in transportation companies. If women can not take their turn on the night shifts they can not enter the trades nor use their seniority rights on an equal basis with men, and their employment is made much more difficult. The night-work law that was enforced at one time for women in newspaper offices in New York State undoubtedly proved a handicap to some women. The effect of this law, however, was not extensive, because comparatively few women were employed in the occupations and under the conditions regulated. In fact, a study made in New York five years after the exemption of these women from the provisions of the law showed that only 40 of 150 women, employed on 77 newspapers, were working at night. Nevertheless, among the women employed at night in printing establishments there are some who are highly skilled, well paid, and thoroughly satisfied with their work, and the prohibition of such employment would be a decided handicap to them.

Pharmacists

Employment in pharmacy is one of the few semiprofessional occupations to which hour and night-work laws for women have been applied. In this case the result has been some handicap to women's employment. Though the evidence collected was neither extensive nor very definite, it indicated that legislation has been one factor in limiting employment opportunities for a few woman pharmacists. It is important to recognize, however, that as far as concerns the actual position of woman pharmacists the removal of such legislation would have very little effect. At present, public opinion does not place a woman on a par with a man pharmacist. Neither the employer nor the public feels the same confidence in the woman as in the man. Furthermore, there are certain drawbacks to the employment of women in pharmacy that will serve as a more or less permanent handicap. These drawbacks relate to the physical requirements of the work, such as handling heavy carboys and packages of drugs. In the future such requirements may be eliminated, but at present they seem to be one of the chief reasons why women are not more extensively employed. The small number of women qualified for pharmacy, prejudice against women, lack of confidence in them, and the physical requirements of the work are the main things that at present are holding women back in this occupation. Legislation has had its effect, but it has been of minor importance.

Prohibitory Legislation

ALL the legislation discussed in the foregoing paragraphs is regulatory in type. Occasionally, as in the case of the woman printers and some of the women in transportation, this legislation has become prohibitory in its result. On the whole, however, its purpose and its accomplishment have been to regulate but not to eliminate the employment of women in various occupations or industries. The effects of the laws prohibiting employment in certain occupations are very different from those of the regulatory laws. Prohibitory laws have really only one effect—the elimination of women from the occupations covered. The importance or significance of this elimination is the one necessary qualification in a measurement of the effect.

The occupations prohibited for women by the laws of one or more States are limited in number. Many of these laws are insignificant in their possible effect on women, but certain of them deserve very careful consideration. The prohibited occupations studied in the course of this investigation are grinding, polishing and buffing, acetylene and electric welding, taxicab driving, and gas and electric meter reading.

Grinding, Polishing, and Buffing

The prohibition of grinding, polishing, and buffing occurs in Ohio and New York.¹ In other States women are successfully employed on these operations, the employers are satisfied with their work, and the women are enthusiastic about both the job and the pay. The laws prohibiting work on such operations originated as safety measures at a time when modern safeguards and improvements of machinery had not been installed. Under present conditions, however, the prohibition of such work—sometimes highly skilled but in many cases purely automatic and often done under excellent conditions—seems to be a restriction of women's opportunity. Of course, there are many types of these operations that are not suitable and probably can not be made suitable for women. This is not sufficient justification, however, for prohibiting all such employment for women.

Electric and Acetylene Welding

The same thing seems to be true of electric and acetylene welding. Though woman acetylene welders are not employed in any great numbers they occasionally are employed with very great success, while some processes of electric welding employ successfully considerable numbers of women on work that is practically automatic and involves almost no hazards.

Taxicab Driving

Until recently, women in Ohio could not be employed as taxicab drivers, and yet in New York and California and Massachusetts and Pennsylvania a few women are doing this work with perfect success and satisfaction. In fact, in Pennsylvania one company inaugurated a fleet of cabs driven by woman chauffeurs, and it was reported that the women were most satisfactory in every way.

¹ In the case of New York wet grinding may be done under certain conditions.

Gas and Electric Meter Reading

The effects of legislation prohibiting gas and electric meter reading by women are unimportant, because practically no women are engaged in these occupations though the work is prohibited for women in only two States. A number of public-utilities companies tried women at this work during the war, but they found it not very successful and transferred the women to other departments.

Summary

IT IS a difficult thing to measure what the prohibitory laws may have done to women's opportunities in the States where they are in effect. However, from the fact that women are successfully employed elsewhere in many of the prohibited occupations, it appears that the prohibition must be something of a restriction where it exists. This restriction affords the outstanding example of possible discrimination against women resulting from labor legislation.

In general, the regulatory hour laws as applied to women engaged in the manufacturing processes of industry do not handicap the women but serve to regulate employment and to establish the accepted standards of modern efficient industrial management. When applied to specific occupations, not entirely akin to the industrial work for which the laws were drawn, this regulatory legislation in a few instances has been a handicap to women.

Laws prohibiting night work for women in industry are chiefly a reflection of the usual attitude of employers regarding such practice, but occasionally they result in a limitation of women's employment. When applied indiscriminately to special occupations that are professional or semiprofessional in type, night-work prohibition or regulation has resulted in restrictions of women's employment.

In almost every kind of employment the real forces that influence women's opportunity are far removed from legislative restriction of their hours or conditions of work. In manufacturing, the type of product, the division and simplification of manufacturing processes, the development of machinery and mechanical aids to production, the labor supply and its costs, and the general psychology of the times, all have played important parts in determining the position of women. These factors have varied with the different industries and localities, but everywhere they have been far more significant in their influence than has any law regulating women's hours of work.

In other occupations other influences have been dominant in determining the extent of women's employment. In stores a more liberal attitude and successful experimentation with women on new jobs; in restaurants the development of public opinion as to the type of service most suitable for women; in pharmacy a gradually increasing confidence in women's ability on the part of the public; in the metal trades a breaking down of the prejudices against women's employment on the part of employers and of male employees and demonstration of women's ability along certain lines—these are the significant forces that have influenced and will continue to determine women's place among wage earners. Such forces have not been

deflected by the enforcement of legislative standards and they will play the dominant part in assuring to women an equal chance in those occupations for which their abilities and aptitudes fit them.

Regulation of Work of Women in Mines of India

THE following draft regulations of the Government of India concerning the underground employment of women in mining are credited by Industrial and Labor Information in its issue of August 20, 1928, to the Hindu, a weekly paper, of June 28:

It is proposed that in the exempted areas (Bengal, Bihar, and Orissa, the Central Provinces, and the salt mines of the Punjab) the number of women employed should not exceed, from April, 1929, the number employed in 1926; thereafter a 10 per cent reduction in the number permissible would be made annually, so that all women would be excluded from April 1, 1939. In all other mines, it is proposed to prohibit the employment of women underground as from April 1, 1929. The regulations relate only to underground workings, and do not interfere with the employment of women workers in quarries or other surface workings.

CHILD LABOR

Work of English Advisory Committees for Juvenile Employment

JUVENILE advisory committees, formed in connection with the Ministry of Labor, have been in operation for some years in England, but the first formal report of their work appeared at the close of 1926. The report for 1927¹ has recently been published, and gives a general review of the situation concerning juvenile employment, as well as of the activities of the committees. There are 162 such committees in areas containing about two-thirds of the insured juvenile population, the other one-third being covered by the work of the educational authorities.

In the Midlands, London, and the South, the committees regard the position as normal and feel that serious unemployment among juveniles is a thing of the past; in parts of Scotland and the North the position is less satisfactory, and the best the committees can do is to find work of some kind for boys and girls, and keep them occupied in the hope that better times may bring wider opportunities. In South Wales the position is very serious, and in the mining districts especially there is likely to be a definite surplus of juvenile labor for some time. The committees here are seriously concerned over the outlook.

They think that the transference of boys and girls to other districts if carefully carried out under suitable conditions would bring some relief, but they point out that parents would, in many cases, be reluctant to part with their children, at any rate those under 16. A surplus of girls seeking employment is reported by a considerable number of committees, especially in areas concerned with the heavy industries, coal mining, engineering, and shipbuilding, where the opportunities for girls are very limited. The institution or continuation of training classes in domestic service is widely recommended.

In connection with this recommendation, it is worth noting that in many places the committees find it hard to place girls in domestic service:

In many places, particularly in Wales, north of England, and parts of Scotland, there seem to be a number of girls willing to take up this occupation when they leave school, the difficulty being that there is little demand for girls of this age, and the consequent problem is of getting them a training that would fit them for good posts.

The Difficult Age

JUVENILES, aged 16 to 18, particularly boys, present a difficult problem to the committees. At this age they are getting too old for boys' work, the dead-end occupations in which they have been employed have given them no training for more skilled pursuits, and

¹ Great Britain. Ministry of Labor. Report of the work of advisory committees for juvenile employment during the year 1927. London, 1928.

they have not yet the strength for unskilled adult labor. One committee reports: "There is no such thing as unemployment among the juniors. It becomes serious at 17 and 18, and that class offers this committee by far the most difficult of its problems."

Another calls attention to the fact that this is the age at which boys too often begin to drift, ultimately losing the capacity to settle down to regular and disciplined work, and another thinks that "what is now required is less emphasis on the evils of 'blind-alley' employment and heavier stress on the need for maintaining throughout adolescence the alertness and adaptability which the elementary schools have created, and which only some form of continued education can keep alive."

Emigration

EMIGRATION, especially to Australia, as a means of relieving the situation is discussed, but the committees almost without exception have found little response to their efforts in this direction. Parental opposition to letting the children go is usually given as the chief difficulty, but the distaste of the town boy for country life, fear of a new and strange environment, and inability to obtain the money needed for the outfit and initial expenses, are all given as contributory reasons. The Glasgow committee recommends the institution of training farms to fit boys for overseas life, and also urges that the conditions for acceptance of assisted migrants be made less severe, and that boys should be taken to Australia absolutely free of charge.

Training for Transference

IN LINE with the recommendations of the juvenile advisory committees is a plan for transferring youths from depressed districts, recently adopted by the Government, of which the Manchester Guardian in its issue for August 25, 1928, gives some account. The idea is to transfer boys of 16 and 17 from Wales, the North, and Scotland to more fortunate areas, and to give them a preliminary training, so that the transfer shall amount to something more than merely changing the scene of their unemployment. The boys attending at the juvenile unemployment centers furnished the material for the experiment, which is said to have been very successful so far, nearly 1,000 boys having been placed, although the scheme had been in operation for only a few months. The official describing the work gave only a general outline:

The boys know how to use their fists, but are not so nimble with their fingers, so by teaching them handicraft we fit them for different occupations. Two thousand five hundred boys are in training, and we hope, especially since the publication of the Prime Minister's appeal to employers of labor, to place 4,000 lads in work away from their homes, where poverty is rife and where they have not a chance. If we could bring the number of transfers up to 5,000, the back of the immediate problem would be broken. * * *

We carefully select the boys from the centers, getting the parents' consent for their removal, and the jobs to which the boys are sent are also chosen with some care. Reasonable prospects of continuous employment must be offered, and the wages must be sufficient to enable a boy to live away from home when the local cost of lodgings and so on is taken into account. Wages offered by employers must not be less than those normally paid. We have arranged for local juvenile advisory committees to select the lodgings and keep an eye on the boys.

Free traveling warrants are issued to the boys, and we have a certain amount of money from the Lord Mayor's distress fund which we use for emergency purposes. There is no chance whatever of a boy being stranded in a strange place.

Prohibition of Child Labor in Japanese Mines

ON SEPTEMBER 1, 1928, the revision of the miners' protection regulations was promulgated by the Japanese Government, according to a report in *The Trans-Pacific* (Tokyo) of that date.

The chief features of this new legislation are the restrictions on pit work, late night work, and the working hours underground.

Under one article of these regulations the underground employment of children under 16 years of age is prohibited. This is regarded as the most important reform, although it will not become fully effective for three years, as there is a provision for the continuation of existing conditions for that period.

Article 5 of the new regulations sets a maximum of 10 working hours underground for men, including the time occupied in descent and ascent. Exceptions, however, may be made under special permission from the chief of the bureau of mine supervision.

Neither women nor minors "shall be forced to work" between 10 p. m. and 5 a. m. except where there are two shifts, in which case work may be prolonged until 11 p. m. by special permission.

INDUSTRIAL ACCIDENTS

Accidents at Metallurgical Works in the United States in 1926

THE report of the United States Bureau of Mines giving accident statistics covering metallurgical works in the United States during the year 1926 has just been issued (Technical Paper 430). The report shows a slight increase in the fatality rate and a small reduction in the lost-time injury rate, the former being 0.73 and the latter 111 for each 1,000 persons employed, as compared with 0.66 and 116, respectively, for the year 1925. It appears that during the year 57,726 men were employed, representing a total of 19,706,098 shifts, with an average of 341 days per man, which is an increase of four days over the 1925 average. The aggregate number of men employed and of man shifts, however, was somewhat less than in the preceding year. Fatalities numbered 48 and lost-time accidents numbered 7,279, of which number 4 resulted in permanent total disability, 223 resulted in permanent partial disability, 2,050 in temporary disability exceeding 14 days, and 5,002 in injuries disabling beyond the day of the accident but for not more than 14 days. The total time lost is estimated at 586,000 man-days, and the average per man is given as 80 as compared with 73 in 1925.

The figures in this report are based upon data received from 557 ore-dressing plants, 94 smelters, and 196 auxiliary plants, which were active part or all of the year. The total is approximately 100 greater than the number reporting in 1925. The following table gives a 3-year summary of the accident experience in the industry classified by groups of plants:

EMPLOYMENT AND ACCIDENTS AT METALLURGICAL PLANTS IN THE UNITED STATES IN 1924, 1925, AND 1926

Kind of plant, and year	Men employed		Average days active	Accidents			
	Actual number	300-day workers		Fatal		Nonfatal	
				Number	Rate per 1,000 300-day workers	Number	Rate per 1,000 300-day workers
Ore dressing plants: ¹							
1924 ¹	15,735	16,093	307	20	1.24	2,511	156.03
1925 ¹	16,945	17,082	302	17	1.00	2,232	130.66
1926 ¹	16,685	17,385	313	13	.75	2,294	131.95
Smelting plants: ²							
1924 ¹	24,941	29,231	352	16	.55	3,293	112.65
1925 ¹	25,144	29,658	354	19	.64	3,376	113.83
1926 ¹	24,399	29,049	357	20	.69	3,181	109.50
Auxiliary works:							
1924.....	15,520	17,624	341	19	1.08	2,422	137.43
1925.....	16,846	19,480	347	8	.41	2,103	107.96
1926.....	16,642	19,253	347	15	.78	1,804	93.70
Total:							
1924.....	56,196	62,948	1,000	55	.87	8,226	130.68
1925.....	58,935	66,220	1,003	44	.66	7,711	116.45
1926.....	57,726	65,687	1,017	48	.73	7,279	110.81

¹ Not including auxiliary works, as shops, yards, etc.

² Exclusive of iron blast furnaces.

A statement of causes of injury shows that falls of persons was responsible for the greatest percentage (13.21 of the group total and 4.16 of the grand total) in ore-dressing plants, burns caused the greatest number of injuries (21.31 per cent of the group total and 9.31 of the grand total) in smelters, and falling objects (rocks, timbers, etc.) injured the most workers (16.3 per cent of the group total and 4.04 per cent of the grand total) at auxiliary works. Considering the groups separately the greatest number of accidents occurred at smelters, with 41.67 per cent of the total number of fatalities and 43.7 per cent of the total number of nonfatal injuries.

A classification by States reveals Arizona as the greatest employer of men both in ore-dressing plants and smelters, with 13.4 per cent and 11.9 per cent, respectively, of the total in each case; while New York stands second in this respect at ore-dressing plants (9.5 per cent of the total) and New Jersey stands second at smelters (11.5 per cent of the total).

Considering all accidents classified by length of shift, a table shows that the average number per million hours of exposure was lower in mills operating on a 9-hour basis, being 35.6 as compared with 47 for those on an 8-hour basis and 92.8 for those on a 10-hour basis. In smelters the 8-hour plants had the lowest accident rate, with 44.6 while the 9-hour plants had a rate of 91.1 and the 10-hour plants a rate of 49.3. The accident rates at small plants (those employing 100 men or less) were considerably greater than those at large plants. Thus at large ore-dressing mills a rate of 93 is shown, while at small ones a rate of 171 is given, and at smelters the rate is 104 for large plants and 217 for small ones.

The report states that continuous operation of plants tends to lower accident rates. The following quotation discusses this point:

When the reports for ore-dressing plants covering a five-year period (1922-1926) were classified by size of plant and number of days the plants were active during the year, it was found that among plants that were in operation 300 days or more, those that employed only one to nine men had the highest accident rates. For the same period of operation the lowest accident rates were for the largest plants—that is, plants that employed 100 or more men. The accident-frequency rate for the small plants was 72 per million man-hours; for the large plants the rate was 49 per million man-hours. Again, taking the same period of operation (300 days or more) and comparing all plants that employed 1 to 24 men with all plants that employed 25 or more men, the figures showed an accident-frequency rate of 58 per million man-hours for the small plants and a rate of 49 for the large plants. A third comparison was based upon an operating time of 150 days or more. In this group the plants that employed 1 to 9 men had an accident rate of 70 as compared with a rate of 51 for plants that employed 100 men or more. An accident rate of 60 was shown for all plants employing less than 25 men, as compared with a rate of 51 for all plants employing 25 or more men when the operating time was 150 days or more.

Meeting of Seventeenth Annual Safety Congress at New York

ALTHOUGH at this writing it is too early for a complete and accurate report of the number of delegates registered at the Seventeenth Annual Safety Congress which met in New York City from October 1 to 5, inclusive, it is unofficially stated that approximately 3,000 were in attendance. This number includes those particularly interested in safety and accident prevention from the

standpoint of the worker and the plant executive, and on the streets and highways of the country as a problem to be met by city, county, and State officials. Much interest was shown in the sectional meetings on public safety where the matter of meeting the hazards of traffic constantly increased by congestion on the streets and highways was thoroughly discussed. Many of the more than 130 general and sectional meetings and lunches considered technical and economic phases of safety as well as the mechanical angle of accident prevention. A complete report of the congress, with all the papers presented and the discussions participated in by delegates, will be published by the National Safety Council.

The officers for the ensuing year are as follows:

President, Henry A. Reninger, Lehigh Portland Cement Co., Allentown, Pa.

Vice president for industrial safety, Ernest W. Beck, United States Rubber Co., New York City.

Vice president for public relations, Charles E. Hill, New York Central Lines, New York City.

Vice president for public safety, Miller McClintock, Erskine Bureau, Harvard University, Cambridge, Mass.

Vice president for community councils, George Opp, Detroit Edison Co., Detroit, Mich.

Vice president for finances, C. E. Pettibone, American Mutual Liability Insurance Co., Boston, Mass.

Vice president for engineering, George E. Sanford, General Electric Co., Schenectady, N. Y.

Vice president for membership, Arthur M. Tode, The Texas Co., New York City.

Vice president for education, Albert W. Whitney, National Bureau of Casualty & Surety Underwriters.

Vice president for health, Prof. C.-E. A. Winslow, Yale University Medical School, New Haven, Conn.

Treasurer, G. T. Hellmuth, Chicago, North Shore & Milwaukee Railroad Co., Chicago, Ill.

Managing Director, W. H. Cameron, Chicago, Ill.

HEALTH AND INDUSTRIAL HYGIENE

Effects of Inhalation of Certain Lacquer Solvents

AN ACCOUNT of inhalation experiments with certain lacquer solvents, showing the degree of toxicity of several of the more commonly used solvents or diluents, is given in the October, 1928, issue of the *Journal of Industrial Hygiene*.¹

The composition of nitrocellulose lacquers is in general quite complex, and even the simplest of them contain several solvents. In connection with the spray painting investigation² carried out by the authors in 1925 for the Pennsylvania Department of Labor and Industry, replies to questionnaires were received from 17 lacquer makers who listed from 2 to 11 different volatile materials in each of their lacquers. These included butyl acetate in 11 lacquers; benzol, ethyl acetate, butyl alcohol, and toluol in 9; xylol and amyl acetate in 8; ethyl alcohol or denatured alcohol in 7; some form of petroleum distillate, as gasoline, etc., in 4; and acetone, amyl alcohol, and other substances in others. While the hazards of benzol when used as a solvent in spraying lacquers have been shown by various studies, the effect of others of the volatile solvents or diluents on the health of the sprayers is not so well understood. The tests described in this report were made, accordingly, with those chemicals which were found to be most often used in the lacquers, as well as one type of turpentine which is used as a solvent in the newer, less rapidly drying brushing lacquers.

The tests which were carried out on animals involved exposure to fumes at the maximum concentrations which had been found in factories where little or no exhaust ventilation was available and at concentrations which were likely to prevail where reasonable and usual exhaust ventilation was provided. The animals subjected to the tests were kept under observation for at least two weeks before gassing was commenced, in order to insure their being in proper condition for the experiments and there were two groups of control animals for each experiment, one of which was kept in a gassing chamber supplied with fresh air and the other with the colony, receiving the same food and attention but not being exposed to any unusual conditions.

The solvents tested included toluol, xylol, gasoline, ethyl acetate, butyl acetate, amyl acetate, ethyl alcohol (formula 2b), butyl alcohol, steam-distilled turpentine, and spraying lacquer distillate and brushing lacquer distillate.

¹ *Journal of Industrial Hygiene*, October, 1928, pp. 261-271: "Inhalation experiments with certain lacquer solvents," by Henry Field Smyth, M. D., and Henry Field Smyth, jr.

² See *Labor Review*, September, 1928 (pp. 63-67).

The conclusions reached from the experiments are summed up in the report as follows:

As the result of the series of tests here reported the authors would divide the solvents tested into three groups:

1. Those usable with safety in concentrations usually employed or possibly in somewhat higher concentrations as ingredients of brushing or spraying lacquers. Ethyl acetate and amyl acetate, and possibly butyl acetate, would be placed in this class.

2. Those usable with safety in present concentrations but to be increased with caution as possibly harmful if increased materially. Here would be listed gasoline, turpentine, and xylol.

3. Those for which the present practice probably represents nearly the upper limit of safety in use as spraying lacquer constituents. In this group are toluol and butyl alcohol.

Provided reasonable exhaust ventilation is assured, however, all these limits may be appreciably raised with impunity.

The entire investigation furnishes a strong argument for the insistence on exhaust ventilation wherever lacquers of any type are being sprayed.

The materials listed and tested here do not nearly exhaust the list of those used as lacquer materials and the fact that practice in this respect is still frequently changing and new ingredients continually being introduced, about which there is available no information as to their effect on the health, is another argument for the protection of the sprayer in all cases. The removal of benzol from lacquers will undoubtedly remove the greatest single hazard from either acute or chronic poisoning in lacquer work but it does not warrant the discarding of precautionary measures.

Hazard of Automobile Gas in Streets and Repair Shops of Large Cities

THE highly toxic nature of the exhaust gas from automobiles is well recognized and the rapid increase in the number of automobiles makes the problem presented by the inhalation of these fumes, which contain high concentrations of carbon monoxide, one of great importance. A study of this hazard, both in streets and repair shops of large cities, which was made by J. J. Bloomfield and H. S. Isbell, of the United States Public Health Service, was published in Public Health Reports, March 30, 1928.

It has been shown by tests conducted by the United States Bureau of Mines that the amount of carbon monoxide produced by an automobile depends chiefly upon the adjustment of the carburetor. In a series of road tests on automobiles and trucks operated under all sorts of conditions, it was found that the amount of carbon monoxide ranged from 0.5 to 14 per cent of the total exhaust gases, and averaged about 7 per cent. When a car is idling, however, it may reach even higher concentrations as, for example, while waiting for the traffic control to change, drivers often use the accelerator several times to keep their engines from stalling, a practice which yields relatively high amounts of carbon monoxide. While the air we breathe is a remarkable diluent of toxic gases, it has been a question whether or not there is sufficient air to dilute the great amounts of dangerous automobile exhaust gas at congested areas in our large cities. In this study, therefore, determinations were made of the amount of carbon-monoxide gas present in very congested areas and in automobile repair shops, thus showing the extent of the hazard under both indoor and outdoor conditions.

Fourteen of the largest cities of the country were visited. These cities had a combined population of over 19,000,000, and 250 samples of air were taken for analysis. As the street samples were taken under the most congested conditions at busy traffic intersections it was felt the results of the analysis show the maximum hazard which exists to-day in our city streets. The tests showed an average contamination of 0.8 part of carbon monoxide per 10,000 parts of air and only 24 of the 141 tests gave more than 1 part of carbon monoxide in 10,000 of air, while only one location, a covered passageway, had as much as 2 parts per 10,000. The analysis of air samples taken inside autobusses showed even lower amounts of carbon monoxide. Previous studies³ have shown that exposure to 2 parts of carbon monoxide for 6 hours with the subject at rest caused only very mild subjective symptoms with no noticeable aftereffects, but exposure to 4 parts for 2 hours produced moderate to marked aftereffects. With the subject exercising strenuously for one hour in exposures with from 2½ to 4 parts of carbon monoxide the immediate symptoms were moderate and the aftereffects mild to moderate. The concentrations present in the streets and autobusses are not large enough, therefore, particularly in view of the short exposure of individuals, to constitute a health hazard. It is possible, however, that there is a hazard for the traffic officer, but this potential hazard may be minimized by shortening the duration of exposure at the more congested points.

The carbon-monoxide content of the air of 27 garages was shown by the 102 tests made to average 2.1 parts in 10,000, 59 per cent of the samples containing over 1 part of carbon monoxide and 18 per cent over 4 parts in 10,000 parts of air. The highest average amount of carbon-monoxide gas found in any repair shop was 11 parts per 10,000 and the minimum average was 0.1 part. Practically all the shops visited depended on natural ventilation to remove the toxic gases produced by the automobiles. The amounts of gas present in these repair shops indicate that the condition is a dangerous one. The hazard may be reduced, however, to a minimum by restricting the running of any automobile motor in a garage or shop to 30 seconds unless the exhaust is connected to the outside air by a direct air-tight outlet or unless the car is in necessary motion. These samples were all taken in garages of considerable size, but the small private garage also presents a very great danger to life. In general, it is said that under any circumstances the discharge of an automobile exhaust into a roofed inclosure should be regarded as a hazardous act.

Health Hazards in Chromium Plating

AN INVESTIGATION of the hazards of chromium plating by chemists of the Public Health Service and the Bureau of Standards⁴ shows that the risk of poisoning is in direct proportion to the amount of chromic acid in the air. The number of cases of chrome poisoning have increased as a result of the increased

³ See Labor Review, December, 1922, p. 184.

⁴ U. S. Public Health Service. Public Health Reports, Sept. 7, 1928, pp. 2330-2347: "Health hazards in chromium plating," by J. J. Bloomfield and William Blum.

use of this process, although it has been generally recognized that the spray of chromic acid produced during the process may be injurious to the workers, and as a result in most plants local exhaust ventilation has been employed. The investigation was made for the purpose of determining the extent of the hazard involved in chromium plating and the measures which have been or might be taken to safeguard the process.

Chromic acid is the principal constituent of practically all the chromium-plating baths now used and may be present in concentrations ranging from 27 to 67 ounces per gallon. There are also small amounts of other chemicals in the solution, and there are small amounts of lead chromate and lead peroxide produced on the surface of the bath by the lead anodes which are generally used. Both oxygen and hydrogen are liberated in the electrolytic process and tend to carry into the air a fine mist or spray of the liquid in the tank. A preliminary study seemed to show that the only constituent of the spray which was likely to be injurious was the chromic acid, and the investigation was limited therefore to the amount of chromic acid in the air above the tanks and its effects upon the health of the operators.

The study covered six plants employing 27 workers as chromium platers, although more than 70 other workers were engaged in the process and were more or less exposed to the acid spray. Twenty-three workers, four of whom were controls, were given a physical examination and their previous occupational history was taken in order to determine what bearing the former employment had on their present physical condition. Earlier studies have shown that the most common site of injury is the nasal septum, although ulceration of other parts of the body occurs if the chromic acid comes in contact with the broken skin. The nose and exposed parts of the body were especially observed therefore, and examinations were made of the throat and lungs for possible injury to the upper respiratory tract.

The approximate daily exposure to the acid mist of each person examined was found to vary from less than 1 milligram to 56 milligrams of chromic acid per 10 cubic meters of air and the time spent daily over the plating tanks varied from zero to seven hours. Of the 19 persons employed in the plating rooms, 3, or 16 per cent, had a perforated nasal septum, the holes varying from 1 to 4 centimeters in diameter. One of the three was not engaged as a plater but was employed as a helper about 10 feet away from the tanks. Four workers had an ulcerated septum and the majority of the workers had ulcerated mucosa. More than half of the total number of persons working in the plating rooms suffered from frequent nosebleeds and the mucous membrane bled easily on touch. Of 14 workers actually engaged in plating, 6 had chrome holes on the hands, the number of holes varying from one to five. The chrome holes are not caused by exposure to the mist but by contact of the broken skin with the acid solution. There were only two platers who did not show any effects of the exposure, one of whom had been employed a short time each day for only 20 days, while the other had taken the precaution to use vaseline in his nasal passages and to wash his hands frequently. It was of interest to note that all those

not actually engaged in plating but at work not far from the tanks and exposed to only a small amount of the acid mist for only a week or two already showed damage to the nasal passage from the chromic acid. The four workers examined as controls who did not come in contact with the chromic acid mist or solution failed to show any nasal damage or ulceration of any of the exposed parts of the body.

Practically all of the plating rooms had ventilation systems in which the acid mist was removed by drawing air laterally across the tanks, but either the air velocity was not great enough or there was some other defect in the system which operated against complete removal of the spray.

The conclusions drawn from the study were that hygienic precautions reduce the hazard and that operators should guard against injury to the nasal tissues by applying vaseline or mentholatum salve to these tissues daily. Rubber boots, gloves, and aprons should be used when possible and if gloves are not used the hands should be washed frequently and all cuts or abrasions greased with a mixture of three parts vaseline and one part lanolin. All floors near the plating tanks should be frequently washed. Operators should have periodic medical examinations, with prompt treatment of the slightest skin or nose infections, which should include washing with bisulphite, ammonium polysulphide, or thiosulphate solution, application of an ointment, and a waterproof covering. Continuous daily exposure to more than 1 milligram of chromic acid in 10 cubic meters of air is regarded as likely to cause definite injury to the nasal tissues of the operators.

It was found that natural ventilation is seldom, if ever, adequate to remove the chromic acid spray but that a properly designed system of transverse ventilation with an adequate air velocity will reduce the content of the air to less than 1 milligram in 10 cubic meters. The level of the plating mixture should be at least 8 inches below the top of the tank and the ducts, which should not be required to draw the air a lateral distance of more than 18 inches, should be from 1 to 2 inches wide and should extend fully along one or more sides of the tank. For effective ventilation it is necessary to have an air velocity at the duct of about 2,000 feet per minute.

Industrial Posture and Seating

A RECENT report by the Pennsylvania Department of Labor and Industry which stresses the need of good seating arrangements among industrial workers contains a description of the principal points to be followed in the construction and use of a chair which will insure good working posture.⁵

The necessity for providing workers with chairs which will support the body so that the best working position can be maintained with the expenditure of a minimum of energy is becoming more generally recognized with the increasing realization of the harmful effects of fatigue. It is the purpose of the present bulletin to formulate the principles to be followed in the construction of work chairs as a guide to employers in making installations of seating equipment.

⁵ Pennsylvania. Department of Labor and Industry. A good chair for the industrial worker, by Elizabeth S. Johnson. Harrisburg, August, 1928.

It is generally understood that a good work chair must provide support for the back; a seat shaped to the body; and foot support (either the floor or a foot rest); and that the height must be adjustable. The measurements, however, vary according to the individual and the type of operation to be performed. Following is a summary of the principles to be followed in the construction of seats as given in the report:

The back rest should support the small of the back, which is the weakest part of the spine, and must be low enough not to interfere with the freedom of arm movement. In size it may vary from 3 to 7 inches in width and from 8 to 12 inches in breadth. The back rest should be adjustable both vertically and horizontally in order to make it fit different sized workers and also to make it more adaptable to different operations. The rest should be made of wood, as it is more comfortable than metal, and the edges should be rounded. The supporting rods should be flexible to give with the movements of the body and should curve outward so as not to touch the body when the rest is used. The back rest should be hinged to the supporting rods so that its slant will be variable, conforming to the slant of the worker's back with his change in position.

The seat should be constructed to distribute the weight of the body and the front edge should be rounded so that there will not be pressure on the blood vessels under the knees. A saddle-shaped seat is good. The seat, which should not have a rim around it, should be at least as wide as the fleshy part of the body and should be shallow enough so that the back rest can be used when the worker sits erect. The seat should slant toward the back and should be from one-half to 1 inch lower in the back. Wood is the best material for the seat, as it does not have the hardness of metal and does not conduct heat or cold.

The height of the chair should be adjustable so that it may be adapted to the size of the individual using it.

In all cases where the worker's feet do not rest squarely and easily on the floor, a foot rest should be provided. The height of this should also be adjustable and it should be large enough for the entire soles of both feet. The foot rest should slant toward the chair. It should be at least 2 inches lower on the side toward the chair and a cleat should be placed at the lower edge to brace the heels. The rest should be attached to the work bench or machine, as it is cumbersome if attached to the chair.

The provision of a chair which meets the foregoing requirements does not, however, solve the question of good working posture, as the chair must be carefully adjusted to the work place for height and also adjusted to the individual worker. The relative height of the worker to the working level varies in different operations so that in order to make the correct adjustment it is necessary to analyze each operation. As an example, in bench work the worker's elbows should be from 1 to 3 inches above the level of the object worked on, while for machine work the elbows should generally be below the point of operation.

An arrangement which permits the worker to vary his position is the sitting-standing arrangement, where the height of the work bench is correct for standing and the chair and the foot rest are high enough to enable the worker to keep the same relative position when he is sitting. This arrangement is adaptable to many operations and

affords the worker relief from constant sitting or constant standing, either of which is fatiguing.

Failure to meet any one of the requirements of good use either in the adjustment of chair and work or on the part of the user of the chair will often result in destroying the value of the equipment.

In conclusion the writer says, "Since the adjustment of the chair to the individual worker and to the work place is a matter neglected so easily and at such cost, it is advisable that some one person in the plant, thoroughly familiar with the operations, learn the principles of good seating and be made responsible for seeing that every new worker has his chair and work place correctly adjusted. One person specializing in the posture problems of a plant acquires skill and experience which inevitably means better results than where individual workers or busy foremen handle the seating problems in a haphazard way."

Increased Longevity in the Printing Trades

THE annual report of the secretary-treasurer of the International Typographical Union for the year ending May 31, 1928, contains a statement showing the number of deaths occurring among members of the union each year from 1900 to 1928 and the average age at death.⁶ A remarkable improvement in the life span of these workers is shown by these figures, the average age at death having increased from 41.25 years in 1900 to 58.62 years in 1928. The improvement is ascribed to shorter hours, increased wages, and generally improved working conditions. Diseases of the respiratory system were the leading cause of death in 1928, resulting in 164 deaths, while nervous diseases, including apoplexy, cerebral hemorrhage, and paralysis, caused 134 deaths; heart disease, 131; cancer, 82; genito-urinary diseases, 52; accidents, 37; and suicides, 6; and the remaining deaths, 341 in number, were due to a great variety of causes.

The following table shows the number of deaths, the average age at death, the average membership, and the death rate per 1,000 among members of the International Typographical Union for the years 1900 to 1928:

NUMBER OF DEATHS, AVERAGE MEMBERSHIP, AVERAGE AGE AT DEATH, AND NUMBER OF DEATHS PER 1,000 AMONG MEMBERS OF THE INTERNATIONAL TYPOGRAPHICAL UNION, 1900 TO 1928

Year	Average membership	Number of deaths	Average age at death	Death rate per 1,000	Year	Average membership	Number of deaths	Average age at death	Death rate per 1,000
1900	32,105	419	41.25	13.00	1915	59,571	696	50.84	11.70
1901	34,948	406	41.94	11.60	1916	60,231	755	51.73	12.50
1902	38,364	474	42.94	12.35	1917	61,350	825	51.42	13.44
1903	42,436	476	42.62	11.21	1918	62,661	849	50.82	13.54
1904	46,165	578	45.50	12.52	1919	65,203	1,142	45.12	17.50
1905	46,734	567	45.26	12.13	1920	70,945	783	53.17	11.00
1906	44,980	512	44.02	11.40	1921	74,355	730	54.32	9.80
1907	42,357	561	46.07	13.20	1922	68,746	818	54.40	11.90
1908	43,740	538	45.05	12.30	1923	68,144	804	54.40	11.80
1909	44,921	509	46.09	11.30	1924	68,944	831	54.40	12.00
1910	47,848	574	46.07	12.00	1925	70,372	856	57.68	12.16
1911	51,095	639	49.12	12.50	1926	72,704	895	58.05	12.30
1912	53,807	655	48.09	12.50	1927	74,829	952	57.94	12.70
1913	55,614	687	49.24	12.30	1928	75,738	947	58.62	12.50
1914	58,537	713	48.70	12.18					

* Including stereotypers and electrotypers, 7 months.

† Including photo-engravers, 7 months.

⁶ Typographical Journal, August, 1928, Supplement, p. 66.

Family Damage When a Wage Earner Dies

THE extent to which a family is disrupted upon the death of the breadwinner of the family depends to a large extent upon the number of children under the wage-earning age. A short article on this subject in the Statistical Bulletin, September, 1928, published by the Metropolitan Life Insurance Co., states that each year 400,000 widows and 200,000 children under 16 are deprived of the support of the head of the family through death.

The ages at which this loss is greatest lie between 35 and 45 years when the wage earners who die leave on the average 2.7 young children who not only can not contribute to the family budget but are a drain upon it since they must be cared for out of whatever resources the widows can command. The number of dependent children left by wage earners dying between the ages of 25 and 35 average 2.1, while those under 25 leave only 1.4 such dependents. The foregoing figures are based on conditions existing among wage earners insured in the Metropolitan Life Insurance Co., but in view of the large number insured they are believed to be generally applicable to the entire population of the United States.

Seventy per cent of the fathers between the ages of 35 and 44 who died with dependent issue left 2 or more children under 16 and of this number nearly one-fifth left 4 children and practically the same number left 5 or more children. Two or more dependent children were left by approximately 60 per cent of the fathers dying between 25 and 35 and by about one-third of those dying under the age of 25. The number of dependents in the families of foreign-born fathers is larger on the average than in those of the native born, but there is practically no difference between the number left by colored men and by white men.

The largest part of this family damage is due to relatively few causes, as nearly 6 deaths out of every 10 between the ages of 25 and 44 are caused by tuberculosis, influenza-pneumonia, heart disease, and accidents, these conditions causing, respectively, 22.7 per cent, 12.6 per cent, 11.5 per cent, and 14.2 per cent of the mortality. It is said to be particularly significant that these causes are, for the most part, preventable. The situation as regards tuberculosis has improved greatly within the past two decades, although there is still much to be done to safeguard families from this disease, but heart disease has become the outstanding public health problem. Heart disease is preventable in many cases, especially before the age of 45, and heart clinics are now devoting much attention to its prevalence in childhood since, while cardiac diseases cause death for the most part in later life, they are often acquired in childhood, infectious diseases such as diphtheria, scarlet fever, pneumonia, or acute rheumatic fever often resulting in heart impairment. Preventive care of children should, therefore, in time, be followed by a reduction in the heart disease death rate for adults. Although the accident death rate is much lower than it was 20 years ago, there has been no improvement for the past 8 years, due altogether to automobile fatalities. Fatalities from this cause are an important item in the mortality among males between 25 and 45 years, and a consequent cause of much damage.

Legislation on Occupational Diseases in Bolivia ⁷

A LAW was passed in Bolivia on April 18, 1928, dealing exclusively with occupational diseases, to replace the provisions relating thereto in the workmen's compensation law ⁸ of that country, which were repealed.

Occupational diseases are defined in the new law as those contracted in the exercise of various occupations or trades. Poisonings and pathological conditions due to the handling of irritant substances, or the inhaling of injurious gases or mineral dust are included in this category.

Pneumonoconiosis, anthracosis, lead poisoning, mercury poisoning, hydrocarburism, phosphorus poisoning, occupational dermatosis, tobacco poisoning, anthrax, pulmonary sclerosis, nephritis, and pulmonary tuberculosis are considered as occupational diseases.

Workers who are incapacitated as a result of one of the specified diseases shall be compensated as follows: For permanent total disability an amount equal to two years' wages; for permanent partial disability, one year's wages; and for temporary disability, half pay during the time of the disability in addition to the cost of treatment.

Compensation is to be paid to workers suffering from an occupational disease in the following instances:

(1) When the disease is contracted by the worker in the exercise of his occupation or trade (a worker must take a medical examination before being employed in a factory, workshop, or mine);

(2) When the disease is due to the type of work done by the patient during the year preceding disability;

(3) When the worker had not suffered from the disease before taking up the said work.

Workers using drills in underground workings or employed in ore mills or kilns, that is, those who are principally exposed to pneumonoconiosis, will be entitled to 30 days' annual holiday with full pay at the end of a year of consecutive work. Workers who are not satisfied with the result of the medical examination carried out before and after their employment may claim compensation from the management on presentation of another medical certificate issued by a recognized physician.

British Report on Silicosis in the Pottery Industry

A COMMITTEE was appointed in June, 1927, by the British Home Office to study the proposed scheme of compensation for silicosis in the pottery industry and also the question of additional measures for the prevention of the disease among pottery workers. The report, which has recently been made public, accepts the principle of the payment of compensation and makes important recommendations for preventive regulations.⁹

In the course of the inquiry the committee inspected the actual working conditions in a number of potteries, the physicians on the committee consulted with the medical advisers of the employers and

⁷ International Labor Office. *Industrial and Labor Information*, Sept. 3, 1928, p. 269.

⁸ For a digest of this law see the June, 1926, issue of the *Labor Review*, pp. 102 to 104.

⁹ Great Britain. Home Office. *Workmen's Compensation (Silicosis) Committee. Report on compensation for silicosis dealing with the pottery industry*. London, 1928, 41 pp.

the workers in regard to the findings of the medical board of inquiry regarding the incidence of silicosis, and evidence was taken from various physicians and experts on such questions as mortality from respiratory diseases in the industry, the value of periodic physical examinations as a means of prevention, and methods of settling claims for compensation.

Figures are cited in the report showing the excessive mortality among potters. The latest occupational mortality figures published for the country as a whole are for the years 1921-1923. These figures, which were published in the decennial supplement of the registrar general for 1921 show that the mortality of potters' millworkers, slip makers, and potters is 64 per cent above the average, and that of earthenware and china kiln and oven men 83 per cent more than the average. Workers in this latter group, which shows the greater excess mortality, are subject both to lead risk from glaze and silica risk from the flint dust with which the ware is packed in the saggars which these men handle and fire. Pottery workers are sixth from the top on the list showing comparative occupational mortality rates, the excessive mortality appearing after the age of 35. A large proportion of the cases of respiratory tuberculosis in both groups occurred at the later periods of life. Of 111 deaths from respiratory tuberculosis among potters' millers, slip makers, and potters, 90 occurred in persons over 35 years of age while of 51 deaths from this cause among kiln and oven men, 42 were of persons over the age of 35. In addition to these deaths there were five from chronic interstitial pneumonia, a term used to denote fibrosis of the lungs, including silicosis, when nontuberculous. The high incidence of tuberculosis after the age of 35 is regarded as evidence that the occupation is related to the increased occurrence of the disease. It is certain, it is said, that "a considerable proportion, if not all, of the deaths from respiratory tuberculosis in excess of those occurring in the general population must be accounted for by injury to the lungs resulting from the inhalation of dust."

A report on the incidence of silicosis in the pottery industry published in 1926 confirmed these figures, showing that there is a great deal of silicosis in the industry and that workers exposed to unmixed flint dust are especially liable to it. Physical examinations of 99 workers exposed to flint dust showed that 27 had silicosis in various stages. These cases were found in the occupations of flint milling, and china biscuit placing, and among china biscuit odd men, china biscuit warehouse women, and polishers. Fifty-three cases were found among 345 workers exposed to dust from the composite body of the ware.

The employers' representatives on the committee contended that under the present factory regulations in force in the industry the risk of silicosis had been considerably diminished, but the committee decided that from the facts available there was no evidence that so far there has not been any appreciable reduction in the incidence of the disease. Since the fact was established that silicosis was a serious hazard among potters, the committee agreed that these workers and their dependents were entitled to compensation for death, total disablement, or partial disablement, which unfits the

worker to continue at work when the disease was contracted as a result of employment in the pottery industry.

The employers rejected the proposal of the committee for the establishment of a compensation fund for the industry and a scheme was drafted, therefore, making each employer personally responsible for the liability in respect of the workers he employs. The compensation scheme proposed by the committee would cover workers in all processes in which there is exposure to silica dust. The payment of compensation under the proposed plan would be dependent upon employment in processes offering exposure to silica within three years of the application for compensation, and employment in these processes for not less than five years. Although it was considered desirable that there should be a medical board to act upon compensation claims, the report does not recommend the appointment of such a board unless some arrangement can be devised for spreading the cost over the whole industry. Failing this, the most satisfactory arrangement would appear to be that all of the examinations, including the periodic examinations, which the committee recommends, should be made and certificates given by medical officers, specially appointed by the Secretary of State, whose decisions would be final, subject to the right of appeal to a medical referee who would also be specially appointed for the purpose.

The British workmen's compensation act provides for the appointment of committees representative of employers and workmen with power to settle questions arising under the act and to exercise certain powers conferred by the act in county courts. These committees have been found to work satisfactorily in other industries and the committee favored this method in dealing with silicosis in the pottery industry, although its adoption would depend upon its acceptance by both parties.

WORKMEN'S COMPENSATION

The Small Plant and Workmen's Compensation Coverage ¹

By ETHELBERT STEWART, UNITED STATES COMMISSIONER OF LABOR STATISTICS

THERE is very little, if any, doubt that the work of accident prevention has been introduced and accelerated in this country by reason of the workmen's compensation laws. Where workmen's compensation applies and can be made to apply you find a live human interest in accident prevention. In many instances it has become really human; but, to stop kidding ourselves, the interest generally has only the image of a human on one side and the image of an eagle on the other.

We are beginning to wake up to the fact that the small plant is taking little or no interest in the question of accident prevention. When workmen's compensation laws were enacted the people had a feeling that those injured in industrial employment, together with their families, were going to be reasonably well taken care of, and they sat back with that smug assurance which characterizes the American mind (and I suppose all minds) when it has succeeded in having a law passed.

The fact of the business is, however, that even by the terms of the law the number of workmen in the United States who are protected by compensation is so small compared with the whole that, so far as the laws and the records show, only a relatively small proportion of the workers in the country are insured.

Granted that the question of compulsory and voluntary election as it is written into the laws of most States confuses the problem beyond all hope of understanding by the layman, nevertheless certain facts stand out.

In no law in the United States is there compulsory insurance for all establishments or employments under any and all circumstances. The nearest we come to it is in the California law and the new law covering employees in the District of Columbia, which will be taken up later on.

We must remember that by the latest census records over 40 per cent of the manufacturing establishments of the United States employ an average of 2.7 workers per establishment. So far as any information we have is concerned these establishments are not covered in the following States: Alabama, Alaska, Arizona, Colorado, Connecticut, Delaware, Georgia, Kansas, Kentucky, Maine, New

¹ Paper read before the fifteenth annual meeting of the International Association of Industrial Accident Boards and Commissions held at Paterson, N. J., Sept. 11-14, 1928.

Hampshire, New Mexico, Ohio, Rhode Island, Tennessee, Texas, Utah, Vermont, Virginia, and Wisconsin. The theory seemed to be that the man who worked in a small plant could afford to be killed or maimed and his family would be delighted, and society would have money enough on hand to buy a poultice plaster for the workers in these small plants.

There is a feature in some of the laws which permits voluntary or elective coverage. There is not a State in the Union from which I can get statistical returns that knows how many and what per cent of establishments, according to size, have voluntarily elected to come under the workmen's compensation law. They can tell me how many have come in. They can not or do not or will not tell me how many have not come in. The workmen in those plants that have not come in are not insured. This leaves an unknown number of small plants with no inducement to clean up, to have safety devices, or to protect their workers in any way.

There is another clause in many laws which requires employers in extrahazardous occupations to come in, and this includes all employees engaged in the hazardous occupations. Here we do not know what proportion of the employees are covered and what proportion are not. It is fair to assume that, once in, the election covers all.

What constitutes extrahazardous employment is defined differently in the States by the statutes, and can not as a matter of fact be defined at all. The girl in a lawyer's office, entirely excluded from the law, who climbs up a stepladder to get a law book and falls and breaks her leg has a broken leg just the same as the fellow who gets one of his legs broken in climbing up and down a ladder in an iron-ore mine. She has no protection. She is working in an industry entirely out of the range of most of the State laws.

But why quibble over the States that cover 1, 2, or 3? There are plenty of industries, such as mercantile, clerical, etc., where persons get hurt who are not covered at all. The point I wish to raise is that the atmosphere of compensation laws covers the large plants and not the small ones, and that atmosphere permeates all the so-called compulsory and elective laws. We have not, we are not to-day, putting the pressure of compensation laws on the small plants to make them clean up and institute safety devices.

As I understand the laws, in certain States establishments having less than a certain number of employees can not come under the compensation law even by election or voluntary choice. These States with the specific number of employees are—Alaska, 4; Arizona, 2; Delaware, 4; New Hampshire (as to factories), 4; Texas, 2.

It seems to me, after my brief and quiet occupancy of the secretaryship of this organization, that the extrahazardous institution ought to be compelled to come in under any circumstances and without regard to the number of employees. Extrahazardous employees numbering four in New Hampshire or Delaware need protection more than those in nonhazardous occupations. It comes down to this—that in certain States certain people were afraid that the law would cost too much.

I will pause a second to refer to the omission, in practically all laws, of casual workers. By and large, there is no more hazardous occupation and no class of people who have less to depend upon or fewer friends to take care of them than the so-called casual workers.

Without going into detail I will say right here that the National Safety Council has pointed out that the home accidents show a higher rate than practically any other industry. Coverage of domestic employment is not compulsory in any State. Farm accidents, in the States where we have any idea about them, are more frequent than accidents in many of those industries covered by the laws.

We are dodging the cooperative movement, the partnership movement, and the subcontractor and sub-subcontractor movement, even where it is not the result of an insurance company plan.

My purpose here is simply, in a general and sketchy way, to show that, generally speaking, the compensation laws use their pressure on the large plant to provide safety methods, and, also speaking generally, do not use the same pressure or any pressure on the small manufacturer or employer to install safety methods.

It was made very clear at the Atlanta convention that this fact is being used to throw more and more workmen out of the scope of compensation protection. It used to be the theory that workmen's compensation laws were intended for the workingmen, and I can remember that when that statement was made at the Baltimore convention by Carl Hookstadt it was backed up and cheered by the membership generally. At the Atlanta convention it was positively denied that the workmen's compensation laws were intended for the workingmen and nobody challenged the statement. This association has on at least two occasions positively refused to go into any scheme which would extend the education of the workmen, even, as to the existence of these laws or as to their rights under them.

Trend of Compensation Coverage in Various States

SOME time ago I asked the various States to answer a number of questions along the line of this increasing number of uninsured employees. The practice of letting subcontracts for particular parts of a job, where the number of men employed by the subcontractor or the sub-subcontractor would be less than that covered by the law, is becoming more and more common.

Over and above that of the large total number of workmen excluded from compensation by the minimum coverage of the law, there are two or three other points to bring up.

In the first place the National Safety Council has developed the fact that a very large percentage of accidents is what they term home accidents. These are entirely uncovered except, by election, in California and one or two other States. The few instances where home accidents are compensated may be considered negligible.

Then we come to the small plants which, though employing enough people to be covered by the law, are unable to secure insurance. The report from Alabama says: "The small industries comprising this group consists of sawmills, small coal operators, laundries, stores, etc. The larger insurance companies exclude extrahazardous occupations of all sorts and small businesses." Arizona reports refusal by insurance companies to carry mining and farming and mercantile establishments. However, the State fund of Arizona accepts and covers every risk for which application is made. The same may be said of California. Colorado reports insurance companies refusing

to accept coal mine risks, which are, however, for the time being taken care of by an Employers' Mutual Insurance Co. The other small plants which are refused insurance are taken care of by the State fund. Delaware reports but one case of refusal—that of work on the extension of a sewer under the surface railroad tracks. The work was to be done by a recently patented boring machine and the machine could best be operated by five men, the minimum number of employees under the State law. The safety engineering department of the railroad examined the plans and decided there was no risk to the railroad and issued a permit to have the work go on. The contractor, however, could not get compensation insurance.

In Georgia there is only one concern which will write insurance on portable sawmills, and window cleaners are on the prohibited list in that State as in many others.

In Illinois the following industries are unable to secure workmen's compensation insurance: Window washers, tuck pointers, iron dealers (commonly known as junk dealers), and house or building wreckers. All insurance companies except two are reported to have withdrawn from insuring coal mines, and I understand that since this information was furnished, even these two companies have withdrawn from the coal fields.

In Iowa, coal mines can not secure insurance, I am told by Commissioner Funk, who says, "I find that the smaller coal operators are unable to secure insurance because insurers decline to accept their risks on any terms."

In Kansas all the coal mines, except those owned by railroads, which are self-insurers, find it impossible to secure insurance. There are other classes of small operators, who are unable to secure insurance, but they are banding together at present and taking out policies under a life and accident insurance company which is doing business in the State without the definite approval of the superintendent of insurance. There is, however, a significant case in Kansas, and that is Osage County, in which there are 24 coal mines. They have severally and jointly made application as self-insurers, the 24 operators collectively binding themselves to pay any loss under the compensation act to an employee of any of the 24 mines. Each company pays \$10 as a deposit and then 5 cents on each ton of coal produced during each month. On the basis of last year's production in this field and the number of accidents reported, that 5 cents will more than pay the compensation provided under the act.

Minnesota reports that some companies have certain prohibited risks and that it is almost impossible for operations of logging and lumbering, small portable saws and lath mills, and also quarries to obtain insurance in either stock or mutual insurance companies.

Missouri reports that all classes of insurance carriers have adopted the principle of selective risk and are refusing to insure coal mines, window washers, scrap-metal yards, and other extrahazardous and undesirable risks. Missouri has no State fund, and therefore that source of pressure upon these concerns to become less hazardous is lacking.

Oklahoma reports that the entire coal mining industry in the State is without insurance of any kind.

Rhode Island reports that the jewelry refining industry is unable to get insurance, and there is no State fund with which to protect it.

Tennessee reports that coal mines, sawmills in the outlying districts, and some sawmills in the smaller towns are being refused insurance.

Texas reports a rather peculiar and interesting situation. The insurance companies will not insure cotton-oil mills, and power and light plants, and some companies do not insure oil drilling and producing operations in certain sections of the State, especially where there is at present extrapoisonous gas. However, it appears that the law creates an association under the employers' liability law which is compelled to insure them when they make application for such insurance.

Vermont reports lumbering and logging, including sawmills, and to a certain extent woodworking industries, as having great difficulty in securing compensation coverage. This is also true to a lesser extent of the slate industry. The smaller companies in lumbering and logging operations are reported as being in a particularly bad way.

The situation in Virginia has been pretty well covered by others and need not be taken up here.

Pennsylvania finds trouble in a number of industries, but particularly in that of coal mining.

And while we are on the subject of coal mining I want to say that in those coal mines in Pennsylvania which are under the State workmen's insurance fund (and it is fair to assume that many of them are under it because of the trouble in securing insurance) the premium rate for the years 1923 to 1927, inclusive, was 3.2 cents per ton. It was increased to 3.5 cents per ton in 1927. The total loss incurred on account of accidents for the same period was 2.7 cents per ton. In Ohio the losses, including medical attendance, amounted to 5.5 cents per ton. Ohio pays a maximum of \$18.75 a week and a death benefit of that amount for 416 weeks, while Pennsylvania pays \$12 per week. (The figure was raised to \$15 last year, but my figures do not include last year's experience.) Ohio's coal premium rate is \$3 per \$100 of the pay roll. Her compensation cost, including medical attendance, which as stated above is 5.5 cents per ton, was in the year 1926, 20 per cent above the premium. That is to say, at a premium of \$3 per \$100 of pay roll it cost Ohio an additional 60 cents per \$100 of pay roll. Ohio pays the highest compensation of any State in the Union for coal. Utah's premium is \$3.90 and she insists that she is making money on it.

Now, there is either some mighty poor housekeeping in the coal mines of the States where the insurance companies require \$7.90 for premium, and there ought to be some pretty strenuous efforts made to introduce safety work there, or there is some pretty bad thinking on the part of the insurance companies.

But to proceed, from Massachusetts I get from the commissioner of insurance the report that many companies refuse to insure under workmen's compensation building wrecking, window cleaning, roofers, junk dealers, fireworks manufacturing, and stonecutting and polishing.

I am advised that 45 employers upon their own initiative sought the assistance of the New Jersey bureau to help them get compensation insurance after they had been refused.

South Dakota reports that the sawmills and woodworking industry in the western part of the State is rapidly approaching the status of inability to secure insurance.

When I asked the various States what proportion of plants or of employees were unprotected I found that not a single State had any comprehensive figures on the subject.

Private insurance companies, whether stock or mutual, are not compelled to accept all insurance risks in any of the States except Utah and Arizona, and even there they have methods which amount to nullification of the law.

Whether or not this matter, so far as the insurance companies are concerned, is growing or decreasing is another subject upon which the States have no statistics. Most of them believe that outside of coal mining it is decreasing. Oklahoma says, "The number is constantly increasing or rather has increased somewhat during the past year." Tennessee says, "In our opinion the number of uninsured employers is growing." Vermont thinks the number is increasing slightly. Virginia says, "In our opinion the number of uninsured employers is growing."

In answer to the question as to what they believed was a proper solution of this problem a great majority stated that compulsory insurance regardless of coverage, and a State fund, at least a competitive State fund, seem to be the only answer.

South Dakota makes a statement which raises the whole issue. It states that in its opinion legislative action should be taken along the lines of penalizing for failure to obtain insurance, and adds these significant words, "Employers are prone to let protection go and take chances with action at common law." Now, if this latter statement be true, with the present and growing attitude of the workmen toward the law, it is my conviction that it is up to this association to do certain things. One is to use its entire power, and the power of the other organization including factory inspectors and labor commissioners, to induce the small plants to pay some attention to the ordinary requirements of safety and cleanliness, to reduce their accident rates, and then to insist that there shall be a commensurate reduction in premium rates.

It might be wise to encourage such groupings as that of the coal miners of Osage County, Kans. New York has just made a move in regard to this problem which to my mind is entirely in the wrong direction. It has increased the rates for the small plants, apparently on the theory that it can scare them into better practices. My own judgment is that it will make more and more enemies of the whole workmen's compensation law scheme and that more and more employers will, as South Dakota says, fall back on the common law, particularly in those States in which the law makes that possible through election.

Changes Necessary in System

I WANT to say a few words as to my opinion of the basis of the whole trouble. We imported workmen's compensation law from Germany, where the theory was that everybody in an industry must be

insured and a rate must be made that would pay the losses in that industry; in other words a jackpot by industries of the whole compensation question. In my opinion that is the proper theory. Coal should take care of coal, whether one man is employed or a thousand men are employed in a mine. The industry as such should take care of the industry and pay a rate that will do it. The American idea, which is being pushed for all it is worth, is to insure each individual and give him a rating based upon his accident experience. That is an incentive to the large concern to install safety methods so that accidents are reduced to a minimum as rapidly as possible. There is no such incentive to the small manufacturer. He is not able to put in the safety devices that the large plant puts in, and the insurance company makes his rate so high that he can not afford to insure. And through this individual rating device we are increasing the number of workmen who are not insured, and enormously increasing the number of workmen who would vote against the whole scheme, because, as the railroad men contend, they are better off under the liability law.

Some of the bad features of workmen's compensation laws as at present constructed and administered, and insurance regulations as at present conducted, will have to be ironed out or we will see the workmen of the United States bring their vote to bear solidly to wipe out the present form of workmen's compensation insurance and to install something that has fewer bad spots in it.

California has just changed its law in regard to agriculture in a way to which I would like to call attention. Under the old law the farmer was not protected unless he elected to come under the law and so notified the commission. Now he is assumed to be protected unless he elects not to be protected and so notifies the commission. This may seem to be a very small difference, but watch what its effect in California will be.

The longshoremen's act was applied to the District of Columbia, and covers everything except domestic service, agriculture, and casual labor. Probably there is no class of labor that needs protection so much as casual labor.

Another point about which I would like to have you think is the refusal of insurance companies to take the extrahazardous risks. Of course, with no general pooling of all labor in a compensation jackpot, you can readily understand their reason for doing this. At the same time it is rather amusing to find a State fund—Nova Scotia—where when the fishermen risk became too expensive the private insurance companies came in and said the State fund was all right for nonhazardous concerns but the fishermen should be left to private carriers. Perhaps there is a barb on this hook, as the fishermen were strong enough in the legislature to compel a low premium rate, while private companies can put up a rate which will make the other fellow cut bait or fish with a vengeance.

Meeting of International Association of Industrial Accident Boards and Commissions in 1928

THE fifteenth annual convention of the International Association of Industrial Accident Boards and Commissions was held at Paterson, N. J., September 11-14, 1928. Persons attended from 25 States, the District of Columbia, and 2 Canadian Provinces.

There was a registered attendance of 229 persons, the largest in the history of the association.

The meeting was officially opened with an address by Andrew F. McBride, Commissioner of Labor of New Jersey and president of the association, in which legislation passed during the year was noted.

The morning session of September 11 included the addresses of welcome, the presidential address, and a business meeting at which the report of the secretary-treasurer and reports of regular committees were read. The afternoon session was devoted to the longshoremen's and harbor workers' compensation act and its administration. A paper on this subject was read by Jerome G. Locke, Deputy United States Employees' Compensation Commissioner for the District of New York. There followed a general discussion of the effect and administration of the longshoremen's act.

A full day, Wednesday, September 12, was set aside for the medical papers, all of which were on the subject of fractures or trauma. Special traumas and the measurement of disability caused by them were covered in several papers, as follows: "Traumatic labyrinthitis," by Jack Blumberg, M. D., General Hospital, Elizabeth, N. J.; "The fractured female pelvis," by William Wallace Maver, M. D., and S. Cosgrove, M. D., Christ Hospital, Jersey City, N. J.; "The traumatized kidney," by Stanley R. Woodruff, M. D., professor of genitourinary surgery, Post Graduate Medical College, New York City; "The traumatized urethra," by C. Rutherford O'Crowley, M. D., Newark, N. J.; and "Fractures of the spinal vertebrae—operations and treatment," by Charles A. Elsberg, M. D., professor of neurological surgery, Columbia University, New York City. Other papers were: "Trauma as a cause of cancer," by Jonathan M. Wainwright, M. D., Moses Taylor Hospital, Scranton, Pa. "Fracture of the lower end of the tibia and fibula," by John J. Moorehead, M. D., professor of surgery, Post Graduate Medical College, New York City; and "Traumatic accentuation of chronic diseases," by Abraham E. Jaffin, M. D., City Hospital, Jersey City, N. J.

Occupational diseases formed the subject of discussion at the morning session, September 13. It was the first time that the association has allotted an entire session of a convention to this subject. Interest in the session was far greater than that shown in any of the other sessions. The subject, "The growth of occupational diseases as the result of change in the methods of industry" was discussed by E. B. Patton, Department of Labor of New York; while the subject "How chemistry has changed industry and as a result has changed the tendency to occupational diseases," was presented by two speakers—G. H. Gehrmann, M. D., E. I. du Pont de Nemours & Co., Wilmington, Del., and J. J. Bloomfield, United States Public Health Service, Washington, D. C. General discussion followed the reading of the papers, and the subject of the relative cost of compensating occupational diseases was examined. At the afternoon session the subject was "Accident prevention." The following papers were read: "What is being done for safety in Canada," by R. B. Morley, Industrial Accident Prevention Associations, Toronto, Canada; "What accident prevention can do," by John P. Meade, Department of Labor and Industries of Massachusetts; and "Safety education in industry under State supervision as a means of prevent-

ing industrial accidents," by Thomas P. Kearns, Department of Industrial Relations of Ohio.

On the morning of the last day of the convention, Friday, September 14, Mr. Ethelbert Stewart, United States Commissioner of Labor Statistics, read a paper on "The small plant and workmen's compensation coverage."² Convention committee reports were read. The following officers were elected for the ensuing year:

James A. Hamilton, president, industrial commissioner of department of labor, New York, N. Y.

Walter O. Stack, vice president, president of industrial accident board, Wilmington, Del.

Ethelbert Stewart, secretary-treasurer, Commissioner of Labor Statistics, Washington, D. C.

Executive committee: James A. Hamilton, New York; Walter O. Stack, Delaware; Ethelbert Stewart, Washington, D. C.; Andrew F. McBride, M. D., New Jersey; Parke P. Deans, Virginia; W. H. Horner, Pennsylvania; William W. Kennard, Massachusetts; William M. Scanlan, Illinois; and Victor A. Sinclair, Ontario.

The next annual meeting will be held at Niagara Falls, N. Y., August 19-22, 1929.

The proceedings of the convention will be published as a bulletin of the United States Bureau of Labor Statistics.

Employers' Liability for Accidents Within the National Parks

ON FEBRUARY 1, 1928, an act of Congress was approved extending to persons (including employees) injured or killed, through negligence, within the national parks or other places under the exclusive jurisdiction of the United States the same legal rights held by others in the State within which such district is located.

The purpose of the bill (S. 1798), introduced by Senator Walsh of Montana, is set forth in the House report,³ as follows:

This bill has passed the Senate on three or four occasions, but has never been reached for action in the House. This bill gives a right of action in the case of death of any person by neglect or wrongful act of another within a national park or other place subject to the exclusive jurisdiction of the United States within the exterior boundaries of any State.

It provides that a right of action shall exist as though the place were under the jurisdiction of the State and that the rights of the parties shall be governed by the laws of the State within the exterior boundaries of which the national park or other Government reservation may be. Under the common law no right of action survived to the legal representatives in case of death of a person by wrongful act or neglect of another. This was remedied in England by what is known as Lord Campbell's Act, and the States have almost without exception passed legislation giving a right of action to the legal representatives or dependent relatives of one who has suffered death by reason of the wrongful act of another. This bill will provide a similar remedy for places under the exclusive jurisdiction of the United States.

The bill⁴ provides as follows:

That in the case of the death of any person by the neglect or wrongful act of another within a national park or other place subject to the exclusive jurisdiction of the United States, within the exterior boundaries of any State, such right of action shall exist as though the place were under the jurisdiction of the State within whose exterior boundaries such place may be; and in any action brought to

² See preceding article in this issue.

³ H. Rept., 70th Cong., 1st sess., No. 369.

⁴ Public No. 11, ch. 15, 70th Cong., 1st sess., 45 Stat. 54.

recover on account of injuries sustained in any such place the rights of the parties shall be governed by the laws of the State within the exterior boundaries of which it may be.

Occupational Diseases in Ohio

THE Department of Industrial Relations of Ohio, in its sixth annual report, presents the experience of the State of Ohio under its workmen's compensation law, for the fiscal year ending June 30, 1927. Among the several tables presented in the report is one showing the name and number of the occupational disease claims classified as to disease and filed during the year. The data are shown below:

Disease or poison	Number of claims	Disease or poison	Number of claims
Glanders.....	1	Ulcer of eye.....	1
Lead poisoning.....	151	Compressed air illness.....	3
Mercury.....	1	Carbon dioxide.....	2
Phosphorus.....	1	Brass.....	6
Benzol.....	4	Unclassified.....	84
Poisoned by gas.....	1		
Dermatitis.....	671	Total.....	926

Recent Workmen's Compensation Reports

New York

THE Department of Labor of the State of New York has published as its special bulletin No. 157 a report prepared by the bureau of statistics and information, showing the experience of the State of New York under its workmen's compensation law for the year ending June 30, 1927. Several detailed tables with a text analysis are given. Two of the most interesting tables are summarized below:

TABLE 1.—NUMBER AND COST OF COMPENSATED ACCIDENTS, BY NATURE OF INJURY

Nature of injury	Death and permanent total disability		Permanent partial disability			Temporary disability		
	Number of cases	Compensation	Number of cases	Weeks	Compensation	Number of cases	Weeks	Compensation
Bruises, contusions, and abrasions.....	¹ 58	\$441,937	1,164	43,081	\$763,772	18,457	83,277	\$1,306,561
Burns and scalds.....	² 85	516,014	447	26,385	460,593	4,689	18,115	282,686
Concussions.....	11	76,222	6	295	3,492	244	5,018	79,950
Cuts, punctures, and lacerations.....	³ 128	841,447	7,425	244,494	4,290,541	28,765	97,610	1,482,572
Amputations, traumatic.....	¹ 16	159,347	1,693	99,399	1,739,683			
Dislocations.....	1	4,699	276	15,254	271,669	617	6,241	97,590
Fractures.....	⁴ 576	3,896,547	6,703	322,629	5,743,563	8,641	88,787	1,425,561
Sprains and strains.....	¹ 56	438,202	611	27,636	488,711	16,201	109,497	1,758,166
Asphyxiation.....	⁵ 26	180,668				66	405	6,504
Drowning.....	13	115,378						
Foreign bodies in eyes.....	⁶ 1	13,991	92	7,042	129,182	398	1,071	15,984
All other.....	⁶ 112	843,756	101	8,758	153,479	1,305	10,498	157,536
Total.....	⁷ 1,083	7,528,208	18,518	794,973	14,044,685	79,383	420,519	6,613,110

¹ Including 3 cases of permanent total disability.

² Including 2 cases of permanent total disability.

³ Including 5 cases of permanent total disability.

⁴ Including 15 cases of permanent total disability.

⁵ Including 1 case of permanent total disability.

⁶ Including 8 cases of permanent total disability.

⁷ Including 41 cases of permanent total disability.

TABLE 2.—NUMBER AND COST OF COMPENSATED ACCIDENTS, BY INDUSTRY

Industry	Death and permanent total disability		Permanent partial disability		Temporary disability	
	Number of cases	Compensation	Number of cases	Compensation	Number of cases	Compensation
Manufacturing.....	¹ 296	\$2, 134, 335	8, 116	\$5, 819, 333	31, 425	\$2, 148, 235
Construction.....	² 319	2, 405, 794	4, 172	3, 536, 726	17, 115	1, 960, 477
Transportation and public utilities.....	³ 219	1, 411, 663	2, 671	2, 027, 738	13, 776	1, 169, 659
Trade.....	⁴ 65	401, 427	1, 522	1, 060, 743	7, 580	607, 817
Clerical and personal service.....	⁵ 140	854, 550	1, 740	1, 332, 646	7, 679	585, 050
Mining and quarrying.....	⁶ 38	289, 994	162	151, 213	781	65, 698
Agriculture.....	5	24, 537	121	107, 639	626	54, 852
Not otherwise classified.....	1	5, 908	14	8, 647	401	21, 331
Total.....	⁷ 1, 083	7, 528, 208	18, 518	14, 044, 685	79, 383	6, 613, 110

¹ Including 18 cases of permanent total disability.² Including 12 cases of permanent total disability.³ Including 2 cases of permanent total disability.⁴ Including 5 cases of permanent total disability.⁵ Including 41 cases of permanent total disability.

Pennsylvania

THE annual report of the Bureau of Workmen's Compensation of the Department of Labor and Industry of Pennsylvania for the calendar year 1927 contains some interesting figures showing the result of the experience of Pennsylvania under the workmen's compensation law. The report contains the table below, covering 160,754 accidents involving a time loss of two days or more. There was a decrease of 10.9 per cent in the number of accidents reported during the year 1927 as compared with 1926.

NUMBER OF FATAL AND NONFATAL ACCIDENTS IN PENNSYLVANIA IN 1927, BY INDUSTRY GROUPS

Industry group	Fatal	Nonfatal	Total
Construction and contracting.....	235	19, 031	19, 266
Manufacturing.....	400	56, 363	56, 763
Coal mining:			
Anthracite.....	502	26, 817	27, 319
Bituminous.....	389	23, 267	23, 656
Quarrying and mining, other than coal mining.....	45	2, 402	2, 447
Transportation and public utilities.....	273	12, 412	12, 685
Trading:			
Retail.....	49	6, 287	6, 336
Wholesale.....	11	1, 475	1, 486
State and municipal.....	92	3, 383	3, 475
Miscellaneous.....	68	7, 253	7, 321
Total.....	2, 064	158, 690	160, 754

Compensation payments were authorized during the year in 74,886 cases, either upon the approval of agreements executed by the interested parties or upon awards made by the referees or the workmen's compensation board, the amounts of liability being, in fatal cases, \$5,772,868; in permanent disability cases, \$3,226,464; and in temporary disability cases, \$4,344,157. These figures do not include the amount paid for medical, surgical, and hospital service and medicines and supplies as required by law, which it was estimated amounted to about one-third of the compensation liability. There were 2,001 fatal cases in which compensation was authorized, either

by agreement or award during the year. In 335 cases the bureau was notified during the year of the remarriage of the widows. In 645 cases there were no minor dependents. The sole beneficiaries in 410 of these cases were widows; in 19 cases, fathers; in 99 cases, mothers; and in 117 cases, fathers and mothers. Of the 2,001 fatal cases, 1,672 were dependency cases in which the compensation incurred amounted to \$5,739,968 or an average of \$3,433; 329 were non-dependency cases involving payments of \$32,900 or an average of \$100 per case for funeral expenses.

State Workmens' Insurance Fund

The Department of Labor and Industry of Pennsylvania, in its monthly publication Labor and Industry for August, 1928, publishes a financial statement of the State workmen's insurance fund as of December 31, 1927, with a text discussing the condition of the fund, as follows:

<i>Assets</i>		<i>Liabilities</i>	
Investments (book value), bonds and guaranteed mortgages on real estate.	\$7, 196, 794. 32	Reserve for claims.....	\$4, 569, 704. 24
Reserve for amortization.....	74, 323. 12	Unpaid dividends.....	33, 611. 52
	7, 122, 471. 20	Accounts payable.....	15, 558. 08
Cash on deposit in banks.....	840, 411. 66	Accrued reinsurance premiums.....	7, 271. 88
Premiums in course of collection December 31, 1927.....	640, 807. 98	Balance of coal operators' mutual fund....	6, 466. 46
Accrued interest on investments and bank balances.....	104, 298. 24	1928 premiums paid in 1927.....	619, 941. 41
		Reserve for catastrophe.....	1, 000, 000. 00
Gross assets.....	8, 707, 989. 08	Surplus.....	2, 069, 573. 13
Premiums earned to December 31, 1927, not collected as of March 31, 1928, before audit additions..	385, 862. 36		8, 322, 126. 72
	8, 322, 126. 72		

The earned premium for 1927 was more than \$3,700,000, the largest premium income in the history of the State fund.

A 16.5 per cent expense ratio on the premium income of the State fund for salaries and all administrative expenses of the fund, or a 15.1 per cent expense ratio on the entire income of the State fund, shows that it was economically managed.

The State fund, on December 31, 1927, terminated 12 years of very successful service to the employers and injured employees of Pennsylvania. The State fund was established January 1, 1916, by act of general assembly for the purpose of furnishing compensation insurance at net cost. The growth of the State fund during these 12 years shows beyond contradiction that this duty has been fulfilled to the satisfaction of many thousands of policyholders. During these 12 years of the State fund's existence, policyholders have paid into the fund \$29,847,966. Out of this amount \$3,708,594 has been returned to policyholders as dividends, \$500,000 has been returned to the State treasury, which amount is the total of two appropriations made to the fund by the State of Pennsylvania at its beginning for the purpose of organization, and \$15,462,463 has been paid

out to injured employees and to the families of deceased employees. The total assets of the State fund, as of December 31, 1927, amounted to \$8,322,126 while the surplus on the above date was in excess of \$3,069,573. The interest earnings derived from investment of surplus funds, during the year 1927, amounted to \$326,234.

In analyzing these figures it is quite evident that the State fund has established a remarkable record of achievement and that its fair and impartial treatment of policyholders and injured employees are convincing arguments and proof beyond doubt of the success of the State fund.

The remarkable growth of the State fund is all the more interesting when one stops to consider that it is not compulsory for employers of labor to insure with the State workmen's insurance fund. The form of policy which the State fund issues does not differ materially from the coverage provided and furnished by some 50 other insurance carriers who are licensed to do business in Pennsylvania. The rates which the State fund is authorized to use in the underwriting of policies are the same rates issued, published, and approved by the Insurance Department of Pennsylvania, which all other insurance carriers are compelled to use. Prior to 1928, policyholders in the State fund received a 10 per cent initial reduction from these published rates. This plan was followed from 1916 to 1927, for the reason that the State fund paid no commissions to agents and brokers and it was thought advisable to give the policyholder immediate benefit resulting from this saving. On January 1, 1928, the State fund was authorized to use the same rates in the underwriting of their policies which all other compensation insurance carriers doing business in Pennsylvania are compelled to use. While this plan requires that a policyholder in the State fund pays the same premium which he would pay to any other insurance carrier, it is only reasonable to presume that since the State fund had ample and sufficient income, under rates of 90 per cent of published rates, out of which to pay their losses, expenses, and declare a substantial dividend to policyholders, it will, in all probability, with this additional 10 per cent income, be able to declare a much larger dividend for the year 1928, on the assumption, of course, that conditions affecting the business of the State fund are similar to those of the past few years.

Death of F. B. Lord of California Industrial Accident Commission

MR. F. B. Lord, manager of the compensation department of the California Industrial Commission, died on September 21, 1928. He had been associated with the State commission since 1914, when the compulsory compensation act became effective.

LABOR LAWS AND COURT DECISIONS

Nonunion Labor on Federal Public Works

TWICE during the past few months the question of the employment of nonunion labor on Federal public works has come into public notice. It has been decided that Federal contracts for public work may not specify that union labor be exclusively used and that a Federal contract can not be abrogated because a party to the contract is held up by a strike or threat to strike due to the non-union status of certain employees.

The Fall River Central Labor Union through its secretary wrote to Senator Walsh of Massachusetts stating that "the skilled mechanics of Fall River have little differences with their employers, due to the fact that the latter recognize the rights of collective bargaining in most every instance," and requesting him to "use your good offices to help us maintain our peaceful relations in the building trades crafts by endeavoring to have the contractor who will build our new post office carry along in the same manner as our local contractors."

Senator Walsh on July 9 sent the correspondence to the Treasury Department. On July 19 the Assistant Secretary of the Treasury replied to the request that "efforts be made to have the contractor for the new post office building at Fall River employ union labor in the construction of the building," in part as follows:¹

While the contract for this work will not be awarded for some time, your attention is invited to the fact that it is Government work which will be paid for from Federal funds for the use of the Federal Government, and the department in spending public funds is under obligation to do so to the best advantage, and therefore must obtain the widest competition.

Under existing legislation, the department is required to advertise for proposals prior to entering into a contract, except where the public exigency requires immediate delivery of articles or furnishing of supplies. As the purpose of the law is to avoid favoritism and to secure freer competition, the spirit and purpose thereof would be disregarded if the department were to undertake to enforce upon contractors a requirement for the employment of any particular class of workmen. The department does not feel that it is authorized to make such a requirement one of the conditions of the contract.

In view of the foregoing, it will be impracticable to compel the contractor to employ union labor. All the department, under the law, can do is to require a strict compliance with the contract, which stipulates for the best workmanship.

For your further information there is inclosed a copy of department circular No. 11, dated November 20, 1913, relative to local materials and labor.

The circular referred to was signed by the Secretary of the Treasury, William G. McAdoo, on November 20, 1913, and is as follows:

The department is frequently requested to include in its specifications for the construction, etc., of Federal buildings the requirement that the successful bidder

¹ United States Daily, Washington, July 27, 1928.

for the work shall use a particular material, fixture, appliance or method, or that certain of the materials and labor to be used in the construction of the buildings must be obtained in the localities in which they are to be erected. The department is compelled to deny these requests for the following reasons:

The law requires that proposals for the construction of Federal buildings shall be solicited by public advertisement unless the public exigencies require the immediate delivery of the articles or performance of the services sought to be obtained. The obvious purpose of the law is to secure through broad competition the lowest terms obtainable. This object would be defeated if bidders were restricted to the products of any particular section of the country.

The department always declines to indicate by name or brand the particular materials, fixture, appliances, methods, etc., to be used, but specifies the grade of both materials and labor. Bidders are free to procure these anywhere obtainable, provided they meet the specifications' requirements.

Nothing in the specifications for the different buildings prevents local contractors from bidding on the work. Nor is there ever anything in the department's specifications which would prohibit a successful bidder residing elsewhere from obtaining his materials or labor from the manufacturers or dealers and the artisans of the locality in which the proposed building is situated, provided the specification requirements as to quality, etc., are met.

The department is always gratified whenever local materials and labor are found to answer its requirements, but it can not undertake to restrict competition by limiting bidders to local materials and labor. Whenever the department has information concerning available local stone or face brick, it endeavors to draw its specifications so that proposals may be submitted on these materials, but can not do so to the exclusion of materials of the same class produced elsewhere.

Those interested in the development of local industries or the employment of local labor are always free to bring the same to the attention of the successful bidder for a particular Federal building. Whenever materials, etc., the use of which it is sought to have the department specify or require, are submitted for approval by a contractor for a Federal building, they are invariably given due consideration.

In reply to a letter of the Secretary of the Treasury, dated September 12, 1928, requesting an opinion as to whether the Treasury Department could terminate a contract with the Virginia Engineering Corporation for installing mechanical equipment in a marine hospital at Cleveland, Ohio, Comptroller General J. R. McCarl said in part as follows:²

Under date of January 14, 1928, the department entered into a contract with John Grant & Son for the construction of the main building of the Cleveland (Ohio) Marine Hospital, the work to be completed within 680 days from January 24, 1928. The work thereunder has progressed satisfactorily to date.

Under date of July 6, 1928, contract was entered into with J. H. Wiese Co. for the construction of five residences, nurses' quarters, etc., for the same marine hospital, and on the same date contract was entered into with the Virginia Engineering Corporation for the mechanical equipment of the five residences, nurses' quarters, etc.

The Virginia Engineering Corporation is an open-shop organization, whereas John Grant & Son employs union labor throughout, and the J. H. Wiese Co. also employs union labor on the job. Incident to the work of the Virginia Engineering Corporation it is necessary that the latter go into the main building for the installation of a high-pressure boiler and for the installation of the necessary tie lines between the main building and the nurses' quarters, residences, etc.

The attention of the department having been brought to the fact of probable labor difficulties on this work, a representative of the Virginia Engineering Corporation was called into a conference in the Office of the Supervising Architect, and while no promise was made by him as to just what his procedure would be, it was believed from his statements that he intended to sublet all work involved which ties up with the work performed or to be performed under the contract of John Grant & Son on the main building and connecting lines, it being anticipated that this subletting would be to contractors who employed union labor. This would have avoided difficulty.

² United States Daily, Washington, Sept. 25, 1928.

It now develops that the Virginia Engineering Corporation has employed nonunion labor on this work, and in view of a threatened strike, the matter was referred to the Department of Labor for possible conciliation. Under date of September 5, 1928, A. L. Faulkner, commissioner of conciliation, advised the Supervising Architect that he succeeded, in conference with the union leaders representing the union building trades workmen engaged upon the construction work of the marine hospital, in having the threatened strike deferred until September 17, 1928.

The specifications upon which bids were received for the mechanical equipment contain the following paragraph:

"Other contracts, etc.—The Government may award other contracts for additional work, and the contractor operating under this specification shall not prevent such other contractors from entering the premises and performing their work, and he shall fully cooperate with such other contractors and carefully fit his own work to that provided under other contracts (see article 13 of standard governmental form of contract)."

Article 13 of the standard Form No. 23, standard Government form of contract, reads as follows:

"Other contracts.—The Government may award other contracts for additional work and the contractor shall fully cooperate with such other contractors and carefully fit his own work to that provided under other contracts as may be directed by the contracting officer. The contractor shall not commit or permit any act which will interfere with the performance of work by any other contractor."

To date the Virginia Engineering Corporation is not in default on its contract, nor in the character of the work performed thereunder. However, if the construction contractor for the main building and the construction contractor for the nurses' quarters, residences, etc., who also employs union labor, are held up on their work by reason of strike, the progress of the whole work will be interrupted, since the mechanical equipment man can not proceed unless the construction work continues satisfactorily.

In view of the circumstances as above outlined, your consideration and decision are respectfully requested, as to whether the department may terminate the right of the Virginia Engineering Corporation to proceed under its contract, under the second sentence of article 13 of the standard contract form, or whether such contract may be canceled. In other words, does the fact of employment of nonunion labor by a subsequent contractor on a job in connection with which he has knowledge that prior contractors on the same job are employing union labor, constitute such interference with "the performance of work by any other contractor" as to be a violation of the terms of article 13 of the standard contract form, and because of the effect upon the entire project will the department be legally authorized to abrogate the contract?

It does not appear that the Virginia Engineering Corporation has interfered with the work of John Grant & Son under its contract of January 14, 1928, or with J. H. Wiese Co., under contract of July 6, 1928. On the contrary, the threatened interference is on the part of workmen of the Grant and Wiese contractors with the Virginia Engineering Corporation, and because the Virginia corporation is an open-shop organization.

It appears there has been and is no such interference by the Virginia company with the other two contractors in the performance of their work within the meaning of article 13 of the standard Government construction contract, as to authorize termination or abrogation of the contract of the Virginia Engineering Co. by reason thereof. The employment of nonunion labor by said company is neither unlawful nor in violation of the terms of its contract.

Present Status of Anti-injunction Bill in Congress

WITH the recognition of the "right to do business" as a "property right" which may be protected by injunction, the number of injunctions issued in labor disputes has been on the increase. This use of injunctions has grown to such proportions that public opinion has taken a new interest in the subject. Organized labor does not appear to be satisfied with the restrictions of the Clayton Act on the issuance of injunctions in labor disputes as interpreted

by the courts, and seeks to place further restrictions on the Federal courts. Senator Shipstead, of Minnesota, introduced a bill in the United States Senate on December 12, 1927, attempting to do this. The method used was that of limiting the use of injunctions to the protection of property which the bill defined as "tangible and transferable." Hearings on this bill before a subcommittee of the Judiciary Committee brought out the fact, among others, that some property which was not "tangible and transferable" should be protected in certain instances, as in the case of patent rights. The subcommittee drafted a substitute bill which declared the public policy of the United States toward membership in a labor union, limited the jurisdiction of the courts of the United States in the restraining of particular acts set forth in the substitute bill, limited the liability of persons and organizations interested in a labor dispute, prohibited injunctions in labor dispute cases until after a hearing in open court, and provided for a jury trial in certain criminal contempt cases. The subcommittee's substitute bill was reported to the full committee so late in the last session of Congress that no action was taken on it. It is very probable, however, that the substitute bill will receive considerable attention during the coming session of Congress.

The bill introduced by Senator Shipstead, entitled "A bill to amend the judicial code and to define and limit the jurisdiction of courts sitting in equity, and for other purposes," reads as follows:

That chapter 2 of an act entitled "An act to codify, revise, and amend the laws relating to the judiciary," approved March 3, 1911, be amended by adding thereto the following:

SEC. 28. Equity courts shall have jurisdiction to protect property when there is no remedy at law; for the purpose of determining such jurisdiction, nothing shall be held to be property unless it is tangible and transferable, and all laws and parts of laws inconsistent herewith are hereby repealed.

As already stated, the bill was referred to the Committee on the Judiciary of the Senate, which appointed a subcommittee, consisting of Senators Norris of Nebraska (chairman) Blaine of Wisconsin, and Walsh of Montana, to consider the bill. This subcommittee held extensive hearings from February 8 to March 22, 1928.³

The subcommittee reported unanimously to the full committee a substitute bill. Senator Norris, the chairman of the committee, said in the Senate on May 26, 1928, that "it was intended to try to get that bill reported from the full committee, but in the last week or two it has been an impossibility, on account of the pressure of work on all Senators, which everybody understands, to give the bill the consideration that a bill of such importance deserves." As it was late in the session and there was little likelihood that the committee would act, the subcommittee, through Senator Norris, had printed in the Congressional Record of May 26, 1928, a copy of the bill which the subcommittee reported to the Judiciary Committee. "In order that we might give as much publicity to it as possible and inform the Senate and the country to the greatest possible extent as to just what is pending before the Committee on the Judiciary." It was made clear that the printing of the bill in the Record was not in any sense a report of the Judiciary Committee. The substitute bill reported by

³ The hearings before the subcommittee have been printed for the use of the Committee on the Judiciary under the title "Limiting scope of injunctions in labor disputes"; this contains 732 pages of printed matter.

the subcommittee to the Judiciary Committee, as printed in the Congressional Record of May 26, 1928, reads as follows:

SECTION 1. No court of the United States, as herein defined, shall have jurisdiction to issue any restraining order or injunction in a case involving or growing out of a labor dispute, except—

(a) When the procedure followed and the order issued by the court shall conform to the definitions of, and the limitations upon, the jurisdiction and authority of the court, contained in this act; and

(b) When the issuance of such a restraining order or injunction shall not be contrary to the public policy declared in this act.

SEC. 2. In the interpretation of this act and in determining the jurisdiction and authority of the courts of the United States, as such jurisdiction and authority are herein defined and limited, the public policy of the United States is hereby declared as follows:

Whereas under prevailing economic conditions, developed with the aid of governmental authority for owners of property to organize in the corporate and other forms of ownership association, the individual unorganized worker is commonly helpless to exercise actual liberty of contract and to protect his freedom of labor, and thereby to obtain acceptable terms and conditions of employment, wherefore it is necessary that he have full freedom of association, self-organization, and designation of representatives of his own choosing to negotiate the terms and conditions of his employment, and that he shall be free from the interference, restraint, or coercion of employers of labor, or their agents, in the designation of such representatives or in self-organization or in other concerted activities for the purpose of collective bargaining or other mutual aid or protection; therefore the following definitions of, and limitations upon, the jurisdiction and authority of the courts of the United States are hereby enacted.

SEC. 3. No undertaking or promise, such as is described in this section, or any other undertaking or promise contrary to the public policy declared in section 2 of this act, shall be enforceable or shall afford any basis for the granting of legal or equitable relief by any court of the United States, including specifically the following:

Every undertaking or promise hereafter made, whether written or oral, express or implied, constituting or contained in any contract or agreement of hiring or employment between any individual, firm, company, association, or corporation, and any employee or prospective employee of the same, whereby—

(a) Either party to such contract or agreement undertakes or promises not to join, become, or remain a member of any labor organization or of any employer organization; or

(b) Either party to such contract or agreement undertakes or promises that he will withdraw from an employment relation in the event that he joins, becomes, or remains a member of any labor organization or of any employer organization.

SEC. 4. No court of the United States shall have jurisdiction to issue any restraining order or injunction in cases involving or growing out of any labor dispute to prohibit any person or persons participating and interested in such dispute (as these terms are herein defined) from doing, whether singly or in concert, any of the following acts:

(a) Ceasing or refusing to perform any work or to remain in any relation of employment;

(b) Becoming or remaining a member of any labor organization or of any employer organization, regardless of any such undertaking or promise as is described in section 3 of this act;

(c) Paying or giving to, or withholding from, any person participating and interested in such labor dispute any strike or unemployment benefits or insurance or other moneys or things of value;

(d) By all lawful means aiding any person participating and interested in any labor dispute who is being proceeded against in, or is prosecuting, any action or suit in any court of the United States or of any State;

(e) Giving publicity to the existence of, or the facts involved in, any labor dispute, whether by advertising, speaking, patrolling, or by any other method not involving fraud or violence;

(f) Assembling peaceably to act or to organize to act in promotion of their interests in a labor dispute;

(g) Advising or notifying any person of an intention to do any of the acts heretofore specified;

(h) Agreeing with other persons to do or not to do any of the acts heretofore specified; and

(i) Advising, urging, or otherwise causing or inducing without fraud or violence the acts heretofore specified, regardless of any such undertaking or promise as is described in section 3 of this act.

SEC. 5. No court of the United States shall have jurisdiction to issue a restraining order or injunction upon the ground that any of the persons participating and interested in a labor dispute constitute or are engaged in an unlawful combination or conspiracy because of the doing in concert of the acts enumerated in section 4 of this act.

SEC. 6. No officer or member of any association or organization, and no association or organization participating and interested in a labor dispute, shall be held responsible or liable in any court of the United States for the unlawful acts of individual officers, members, or agents, except upon clear proof of actual participation in, or actual authorization of, such acts, or of ratification of such acts after actual knowledge thereof.

SEC. 7. No court of the United States shall have jurisdiction to issue an injunction in any case involving or growing out of a labor dispute, as herein defined, except after hearing the testimony of witnesses in open court (with opportunity for cross-examination) in support of the allegations of a complaint made under oath, and except after finding of fact by the court, to the effect—

(a) That unlawful acts have been committed and will be continued unless restrained;

(b) That substantial and irreparable injury to complainant's property will follow;

(c) That as to each item of relief sought greater injury will be inflicted upon complainant by the denial of relief than will be inflicted upon defendants by the granting of relief;

(d) That complainant has no adequate remedy at law; and

(e) That the public officers charged with the duty to protect complainant's property are unable or unwilling to furnish adequate protection.

Such hearings shall be held after due and personal notice thereof has been given, in such manner as the court shall direct, to all known persons against whom relief is sought, and also to those public officers charged with the duty to protect complainant's property:

Provided, however, That if a complainant shall also allege that, unless a temporary restraining order shall be issued without notice, a substantial and irreparable injury to complainant's property will be unavoidable, such a temporary restraining order may be issued upon testimony under oath sufficient, if sustained, to justify the court in issuing a temporary injunction upon a hearing after notice. Such a temporary restraining order shall be effective for no longer than five days, and shall become void at the expiration of said five days.

No temporary restraining order or temporary injunction shall be issued except on condition that complainant shall first file a bond sufficient to recompense those enjoined for any loss, expense, or damage caused by the improvident issuance of such order or injunction, including all reasonable costs (together with a reasonable attorney's fee) and expense of defense against the order or against the granting of any injunctive relief sought in the same proceeding and subsequently denied by the court.

SEC. 7a. No restraining order or injunctive relief shall be granted to any complainant who has failed to comply with any obligation imposed by law which is involved in the labor dispute in question, or who has failed to make every reasonable effort to settle such dispute either by negotiation or with the aid of any available governmental machinery of mediation or arbitration.

SEC. 7b. No restraining order or temporary injunction shall be granted in a case involving or growing out of a labor dispute, except on the basis of findings of fact made and filed by the court in the record of the case prior to the issuance of such order or injunction.

SEC. 7c. Whenever any court of the United States shall issue or deny any temporary injunction in a case involving or growing out of a labor dispute, the court shall, upon the request of any party to the proceedings, forthwith certify the entire record of the case, including a transcript of the evidence taken, to the circuit court of appeals for its review. Upon the filing of such record in the circuit court of appeals, the appeal shall be heard and the temporary injunctive order affirmed, modified, or set aside with the greatest possible expedition, giving the proceeding precedence over all other matters except older matters of the same character.

SEC. 8. In all cases where a person shall be charged with indirect criminal contempt for violation of a restraining order or injunction issued by a court of the United States (as herein defined), the accused shall enjoy the right to a

speedy and public trial by an impartial jury of the State and district wherein the contempt shall have been committed.

Provided, That this requirement shall not be construed to apply to contempts committed in the presence of the court or so near thereto as to interfere with the administration of justice or to apply to the misbehavior, misconduct, or disobedience of any officer of the court in respect to the writs, orders, or process of the court.

SEC. 9. When used in this act, and for the purposes of this act—

(a) A case shall be held to involve or to grow out of a labor dispute if the case involves persons who are engaged in the same industry, trade, craft, or occupation; or who are employees of the same employer; or who are members of the same organization of employers or employees; whether such dispute is (1) between one or more employers or associations of employers and one or more employees or associations of employees; (2) between one or more employers or associations of employers and one or more employees or associations of employees; or (3) between one or more employers or associations of employers and one or more employees or associations of employees.

(b) A person or association shall be held to be a person participating and interested in a labor dispute if relief is sought against him or it and if he or it is engaged in the same industry, trade, craft, or occupation in which such dispute occurs, or is a member, officer, or agent of any association of employers or employees engaged in such industry, trade, craft, or occupation.

(c) The term "labor dispute" includes any controversy concerning terms or conditions of employment, or concerning the association or representation of persons in negotiating, fixing, maintaining, changing, or seeking to arrange terms and conditions of employment, or concerning employment relations, or any other controversy arising out of the respective interests of employer and employee, regardless of whether or not the disputants stand in the proximate relation of employer and employee.

(d) The term "court of the United States" means any court of the United States whose jurisdiction has been or may be conferred or defined or limited by act of Congress.

SEC. 10. If any provision of this act or the application thereof to any person or circumstance is held invalid, the remainder of the act and the application of such provisions to other persons or circumstances shall not be affected thereby.

SEC. 11. All acts and parts of acts in conflict with the provisions of this act are hereby repealed.

The subcommittee report presenting the substitute bill will doubtless be considered by the Committee on Judiciary as a whole early in the next session of Congress, which convenes in December.

Tennessee Child Labor Law Liberally Construed

AN ILLEGALLY employed child, injured while returning to work from dinner, may recover damages from his employer, according to the decision of the United States Circuit Court of Appeals in a case involving the Tennessee child labor law. Charles John Perry, though less than 16 years of age, was employed by the Western Union Telegraph Co. as a messenger boy to distribute and deliver telegrams within the city of Memphis, Tenn. The Tennessee law makes it unlawful to employ a minor under the age of 16 years to deliver telegrams after 7 p. m. in the evening unless an age certificate is secured and kept on file. The company, in this case, did not comply with these requirements. Perry worked from 4 p. m. to 10.30 or 11 p. m. and even later, and was paid according to the number of messages delivered by him. On October 3, 1925, Perry, after 7 o'clock at night, was given a telegram to deliver in the vicinity of his home and after delivering it went to his home, ate a meal, and started on his way back to his employer's office. While returning to the office he was struck by an automobile which broke his leg and

otherwise injured him. Perry brought suit for damages against his employer in the United States District Court for the Western District of Tennessee. That court directed a verdict in favor of the employer and the case was appealed to the United States Circuit Court of Appeals, where the judgment of the district court was reversed. (*Perry v. Western Union Telegraph Co.*, U. S. Circuit Court of Appeals, July 12, 1928, 27 Fed. (2d) 197.) The Court of Appeals pointed out that in some States the right of the injured child to maintain a civil action for damages against an employer violating a child labor statute arises without regard to the rules of common-law negligence, but under the child labor statute such right arises by implication. The employer contended that Perry was engaged in his own personal business in going to his home to eat and had not resumed his employment and therefore was not upon his employer's business and not performing the duties of his employment at the time of the accident. The court pointed out that—

The test of liability, on the facts presented, is not whether the plaintiff [Perry] was at the moment in and about the business of his master and acting within the scope of his employment, but whether his presence then and there was the proximate result of the existence of the employment; that is, whether it would have reasonably been contemplated and anticipated that his employment would result in such a trip to and from his home. From the hours of plaintiff's employment, 4 p. m. to 11 p. m., and no provision being made as to time or place for the plaintiff to eat, can it be said from the facts, that the master did not reasonably contemplate and anticipate that the plaintiff, during his hours of service, would go somewhere for his meals? We believe the facts presented herein, when established, furnish an issue of fact for a jury.

The object of the child labor law is very obvious and has been repeatedly construed by the State and Federal courts. Tennessee has held such statute to be construed liberally, "to accomplish their objects, correct the evils, and suppress the mischief aimed at." (*Kitts v. Kitts*, 136 Tenn. 319, 189 S. W. 376; *Chat. Imp. & Mfg. Co. v. Harland*, 146 Tenn. 85, 89, 239 S. W. 421.)

Preliminary Measures for Labor Legislation in Ecuador

THE Ecuadorian Minister of Social Welfare and Labor has sent out a questionnaire to industrial companies, workers, merchants, educators, public officials, professional men, and others to ascertain the needs and actual conditions of the workers with a view to preparing labor legislation, according to an article appearing in the September, 1928, issue of the Pan American Union Bulletin.

The questionnaire treats of such points as the following: Average wage paid for each kind of labor and its relation to the cost of living in that locality; number and history of labor groups in each locality as well as their membership, property, and activities tending to promote education, character building, and better social and economic conditions of members; the social, cultural, economic, and moral conditions in each locality; proportion of union to nonunion workers; number of illiterate workers in proportion to total number of workers in each locality; day and night schools for workers, the average attendance as well as the efforts of private plants to give lectures and university extension courses, and the practical results thereof; number of workers who are property owners and their proportion to the number of professional property owners; consideration of small independent industries and the relation between small property interests and large property interests in each locality.

COOPERATION

Development of Building and Loan Associations, 1926-27

THE report of the secretary of the United States League of Local Building and Loan Associations, made to the thirty-sixth annual meeting of that body, held in Dallas, Tex., in May, 1928, contains data showing the development of these associations during 1927. Comparison with the previous year's report shows that from June 30, 1926, to June 30, 1927, the number of associations increased by 274, the membership by 670,556, and the total resources by \$844,458,644. There were 21 failures during the year, as compared with 12 the year before. These involved a loss to the stockholders estimated at \$1,013,000.

As to conditions during the year, the report states as follows:

The past year has been notably one of easy money and declining interest rates. Associations generally have experienced a keener competition for loans. Money has been pouring into the building and loan associations in greater volume than has ever been experienced heretofore, with the result that in the larger cities particularly there has accumulated a surplus of funds, which it has been a problem to keep safely and profitably employed. While the efforts of building associations have heretofore been directed toward getting investing members, they have had to readjust themselves and go after the borrowing class. This has been a new experience. In their loaning field they now find the insurance companies, the mortgage investment companies, and the various financial institutions, including the national banks, contending with them for business which in the past came to them practically without any effort. They now have to convince the borrower of the superior service which they can and do render and must demonstrate the more attractive loaning proposition which they have to offer their prospects. In other words, building and loan associations now have to employ salesmanship in disposing of their commodity—mortgage loans for home owning or home buying purposes.

The table below shows the number of associations, the total membership, and the total assets, by States.

DEVELOPMENT OF BUILDING AND LOAN ASSOCIATIONS IN THE UNITED STATES, 1926-27

State	Number of associations	Membership	Total assets	State	Number of associations	Membership	Total assets
Alabama.....	48	54,700	\$43,600,944	Indiana.....	404	404,521	\$274,240,104
Arizona.....	6	4,400	1,942,019	Iowa.....	74	53,049	43,497,008
Arkansas.....	73	58,729	35,830,037	Kansas.....	152	194,200	117,979,508
California.....	191	261,282	241,796,747	Kentucky.....	151	141,900	85,509,918
Colorado.....	62	119,631	42,476,646	Louisiana.....	105	190,650	174,818,227
Connecticut.....	38	44,504	20,614,415	Maine.....	38	29,180	19,549,005
Delaware.....	42	17,750	10,212,369	Maryland ¹	1,210	330,000	210,000,000
District of Columbia.....	22	63,768	57,191,666	Massachusetts.....	221	497,220	478,005,147
Florida.....	115	28,500	40,840,280	Michigan.....	78	206,774	126,799,126
Georgia ¹	30	6,500	2,500,000	Minnesota.....	84	80,956	32,422,622
Idaho.....	12	4,700	2,738,752	Mississippi.....	36	21,800	15,417,900
Illinois.....	910	861,000	388,097,831	Missouri.....	251	229,305	159,773,547
				Montana.....	30	41,500	16,337,508

¹ Figures estimated.

DEVELOPMENT OF BUILDING AND LOAN ASSOCIATIONS IN THE UNITED STATES,
1926-27—Continued

State	Number of associations	Membership	Total assets	State	Number of associations	Membership	Total assets
Nebraska.....	83	235, 581	\$155, 213, 561	South Carolina ¹ ..	150	28, 000	\$23, 000, 000
Nevada.....	1	900	523, 714	South Dakota.....	24	7, 705	5, 497, 015
New Hampshire..	28	16, 444	10, 397, 431	Tennessee.....	32	14, 775	9, 127, 109
New Jersey.....	1, 536	1, 166, 980	886, 167, 505	Texas.....	143	145, 380	92, 632, 277
New Mexico.....	18	7, 150	3, 833, 490	Utah.....	24	92, 921	37, 251, 861
New York.....	313	555, 242	349, 533, 632	Vermont.....	10	4, 458	2, 817, 009
North Carolina..	235	102, 000	91, 000, 000	Virginia.....	87	56, 300	50, 149, 670
North Dakota....	19	16, 800	8, 859, 341	Washington.....	72	268, 404	101, 252, 277
Ohio.....	827	2, 282, 693	1, 035, 429, 317	West Virginia....	60	60, 200	36, 128, 266
Oklahoma.....	89	184, 810	116, 818, 814	Wisconsin.....	182	261, 685	217, 563, 983
Oregon.....	40	44, 700	21, 913, 657	Wyoming.....	14	26, 123	13, 137, 453
Pennsylvania....	4, 427	1, 776, 104	1, 245, 987, 953	Total.....	² 12, 900	11, 336, 261	7, 178, 562, 451
Rhode Island....	7	34, 437	22, 635, 780				

¹ Figures estimated.² As shown in report; items given add to 12,804.

New Developments in Cooperation in Canada

BY ACTION of the congress of Canadian Cooperative Societies held in June, 1928, the Canadian Cooperative Union will hereafter be an organization open to all types of cooperative societies, instead of being limited to consumers' societies as formerly.

After a good deal of discussion a resolution was adopted stating it to be the sense of the convention that the time has arrived for the establishment of a national Canadian cooperative wholesale society. Since the wisdom and practicability of a central wholesale at this time was doubted by a considerable portion of the delegates because of the sparse development of societies in Canada and the long railroad hauls necessary in transporting goods from wholesale to local societies, a supplementary resolution was adopted calling for the appointment of a committee on wholesale cooperation to investigate the practicability (1) of one wholesale society for the whole of Canada; (2) one society for the three prairie Provinces; (3) separate provincial wholesale societies, with a central buying agency centrally owned; (4) development of group buying by district societies, and placing the same through a national or provincial wholesale society; (5) the best and most economical means of promoting trade with the wholesale societies of Great Britain.

The Canadian Cooperator, organ of the Cooperative Union of Canada, commenting upon the above action, in its issue of August, 1928, says:

On their face, the two resolutions which were adopted seem to be incompatible in terms. They can, nevertheless, be substantially reconciled. We do not think there can be much difference of opinion as to the desirability of having a national wholesale society in Canada if the practical difficulties can be satisfactorily solved. The committee of investigation appointed by the second resolution will be able to pursue its inquiries along those lines, and, as the result of its investigation, will probably be able to enable the next congress to come to a sound conclusion on the subject. In the meantime, the provincial wholesale societies, which are in operation and in process of formation, will be gaining practical experience, which will be at the service of the movement when the date of the next congress comes around.

Mention was made in the March, 1928, issue of the *Labor Review* of the fact that consideration was being given to the question of establishing a provincial wholesale in each of the Provinces of Saskatchewan, Alberta, and Manitoba. It is reported¹ that the Manitoba Cooperative Wholesale Society has been formed and commenced operations in February of this year, dealing in twine, flour, coal, oil, lubricating oil, gasoline, cement, salt, barbed wire, lumber, and clothing. For the present the business will be confined to the purchase of car-lot quantities for member societies. Thirty-five local associations in the Province are reported to have joined the wholesale.

An office is maintained in Winnipeg.

Cooperation in the Latin Countries

A RECENT book by Prof. Charles Gide, life-long student of cooperation and professor of that subject at the College of France, traces the development of the cooperative movement in the countries of Latin America, Italy, Spain, and Rumania.²

The author points out that the cooperative movement has been very successful in the northern countries of Great Britain, Russia, Germany, the Scandinavian countries, etc. On the other hand, in the southern countries of Spain, Italy, Portugal, Greece, and South America it has been only moderately successful.

The number of members of consumers' cooperatives in Italy can roughly be placed at 1,000,000 (though this number has been reduced under the Fascist rule); in Rumania, at 300,000; in Spain, at 80,000; Portugal, Greece, Bulgaria, Serbia-Croatia have perhaps a hundred thousand all together * * *. The number of cooperators in Europe is a little more than 25,000,000, in a total population of 460,000,000, or about 5.5 per cent. But in certain countries the proportion rises to 10 per cent or even more * * *. [In the seven countries under review] the cooperative population represents only about 1.5 per cent and even if one multiplies by four to obtain the count of members of the family, it would only give 6 per cent of the total population; that is to say, there is only one cooperator to every 15 or 16 persons, while in Austria, Hungary, Switzerland, England, the proportion (members of the family included) rises to one cooperator for every 7 or 8 inhabitants.

The author, after examining possible reasons for this difference in cooperative progress, inclines to the view that the incomplete development in these southern nations is due to their unsettled political conditions. They are all countries in which revolutions and overturning of governments are frequent. The reason for the lack of interest, therefore, lies in the fact that "for these, used to the spice of these local political emotions and quarrels, cooperative activity appears tame, insipid; they disdain its modest elections, they lack interest in its peaceful works."

It is only in consumers' cooperation that these countries lag. In other forms of cooperative activity they excel. Thus, Italy has a great many agricultural labor associations, rural credit associations, and people's banks, Spain its cooperative fishers' associations, its agricultural colonies, etc., and "Rumania itself can give us instruction in the collaboration established between the cooperatives and the State." Consumers' cooperation has not succeeded, because it is

¹ Cooperation, New York, September, 1928, p. 174.

² Gide, Charles: *La Coopération dans les Pays Latins—Amérique Latine, Italie, Espagne, Roumanie*. Paris, Association pour l'Enseignement de la Coopération [1928?].

the most difficult of all; "the other forms of cooperation are the primary school of cooperation, it is the superior form and in the evolution of cooperative forms it is generally the last to appear." Again, consumers' societies are composed of all sorts of people, having no common characteristic except the idea of association for purchasing in common. There is nothing especially appealing about the consumers' cooperative. "It is only a shop and that of the most modest kind."

Italy

Consumers' Societies

THE consumers' cooperative movement of Italy, like that of France, grew out of the movement for free association. Starting about the middle of the nineteenth century it grew to such an extent that in 1886 a cooperative union was established. This Italian Cooperative League, unlike that in France, took in all forms of cooperation—agricultural and productive, as well as consumers'. The inconvenience of this juxtaposition in the league led in 1917 to a division of that organization into three sections, one for consumers' societies, one for labor societies, and the third for agricultural associations.

This movement, however, instead of remaining neutral, as a representative of the whole body of consumers, became identified with the class struggle. Also, the Italian league showed political tendencies; "if it was not formally affiliated with the Socialist Party, it at least flirted with it, demanding its support and giving the latter its own."

When the Italian Cooperative League was established in 1886, it had 68 member societies. After a period of stagnation it grew rapidly. In 1894 its constituent societies numbered only 103, but by 1904 this number had risen to 1,084 and in 1914 to 2,132.

The year 1921 marked the highest point of cooperative development in Italy. There were altogether, in that year, some 20,260 cooperative societies of all kinds, of which 6,481 were consumers' societies, 7,643 were labor and productive societies, 1,534 were credit societies, 133 were insurance societies, 750 were building societies, and 3,719 were agricultural and other types of associations. Of the 6,481 consumers' societies, some 2,000 were affiliated to the league, which was at that time one of the greatest in Europe.

Some of the individual societies were very prosperous, the Milan society, for instance, having a membership of 17,000 families and sales of 100,000,000 lire² annually. It had established 60 branches in Milan and even a branch in Berlin, and had created the garden city of Milanino. The Turin society was even larger, but it was out-and-out Socialist, its directors being required to be members of the Socialist Party, while the Milan society remained politically neutral. There was also a society at Rome with some 30,000 members.

Many of these cooperative organizations were housed in palaces formerly belonging to dukes, princes, and other members of the nobility. "There is no lack of palaces in Italy, and many had been abandoned, the owners, ruined, being no longer able to keep them in repair. It was a moving sight to see these cooperative grocery stores, lodged in the dwellings of the ancient Italian aristocracy and bearing their coats of arms over the doorway."

² \$19,300,000 approximately.

Nevertheless, in the opinion of Professor Gide, "the Italian cooperative movement, although at that moment in full flower, nevertheless had within it certain signs of decadence, or at least certain infirmities which were not very reassuring for its future."

There were a great many societies in Italy but they were to a large extent indifferent to cooperative progress as a whole; their membership averaged only from 25 to 40 persons per society and their yearly sales per member only some \$19 per year. A sure sign of the prosperity of a cooperative movement is the existence of a cooperative wholesale. This Italy lacked. A wholesale had been started in 1909, but it never received much support from the societies and "merely vegetated," finally disappearing altogether.

But in the author's opinion the most disquieting sign was the greater and greater leaning of the cooperative league toward political action.

In 1898 at the cooperative congress at Turin, Buffoli, representative of the Milan society, endeavored to have a clause inserted into the constitution of the league forbidding discussion of religious or political questions within the league. Being unsuccessful, he withdrew and the Milan society canceled its membership in the league. Twenty years later, in 1920, a motion was passed by the cooperative congress authorizing the directors of the league to conclude an agreement for joint action with the General Trade-Union Federation and the Italian Socialist Party. Another congress, at Rome, held in the same year, exhorted the cooperative societies to unite for opposition to "the reactionary violence" manifested "against the institutions of proletarian defense." This denunciation was directed at none other than the Fascist Party, formed a short time before.

Thus, "the Italian Cooperative Union courageously denounced itself to the blows of Fascism, and in case of the latter's victory, signed its own death warrant; Fascism, in fact, from the very day of its victory set itself out to kill the league."

During the war more and more public functions had been taken over by cooperative agencies, with financial assistance from the Government. Abuses, however, crept in. Organizations representing themselves as cooperative also succeeded in many cases in obtaining money from the Government, and corruption and dishonesty became so general that the league had introduced into the Italian Chamber of Deputies a bill which would establish certain standards by which to distinguish the false from the genuine cooperatives. It failed of passage, however, and the cooperative movement continued to receive the discredit for the actions of these pseudo-cooperative organizations.

Meanwhile the league's membership had begun to fall off. In 1917 a separate consumers' federation was formed which withdrew 600 Catholic societies. In 1920 the returned soldiers formed their own federation of "old combatants." In 1921 the Fascists formed a cooperative league, and in 1922 the so-called "liberals," under the leadership of Luzzatti, withdrew.

Undoubtedly the events in Russia had an effect in Italy. "The sight of all the Russian peasants put into possession of the lands of their seigneurs, of the workers in possession of the workshops, had absolutely inflamed the southern imaginations of the Italian people, especially since the life of the Italian rural population was altogether

deplorable. The lands there for centuries past had been owned by seigneurs who, for the most part, did not cultivate them or even live on them, but perpetuated the famous 'latifundia' of the Roman Empire."

Toward the end of the war the doctrine of the strike-on-the-job began to be preached and the theory advanced that the land and the workshops belonged to the people. These found ready acceptance and from 1919 to 1921 more than 600 factories were taken over by the workers, but without violence or bloodshed.

In October, 1922, the Fascists marched upon Rome and "took the power, in the person of Mussolini, with the tacit consent of the King and army."

It was during this period when Fascism was not yet the legal government that it committed its worst acts of violence, above all, against the consumers' cooperatives. It was to be expected that, as in Hungary, to the reign of red communist terror would succeed the reign of black Fascist terror. Adherents of the old league were ordered to declare themselves Fascists, that is to say, replace their directors with Fascists; the cooperatives that refused were burned, plundered, by hundreds, by thousands.

A survey made by a well-known cooperator, at the request of the International Cooperative Alliance, stated that:

It is impossible to get an idea of the systematic destruction of the Italian cooperatives by the Fascists without having seen with one's own eyes instances of these devastations. * * * Altogether, about one-third of the cooperatives of the league have been destroyed.

But the destruction of the consumers' cooperative movement (the productive and agricultural societies remained largely untouched by the Fascists) can not be ascribed wholly to its treatment by the Fascists. There were other causes: Depreciation of the currency, which left the societies practically without capital; the unduly large number of small, weak societies; and the divisions within the movement on lines of religion, politics, etc., leading to lack of unity in thought or action.

Late in 1925 the headquarters of the league were taken over, all papers and documents seized, and the league dissolved. Societies were ordered to make use of the Fascist cooperative paper for notices, etc., thereafter. However, the secretary of the league, M. Vergnanini, it is said, has never lost hope. "There still remain many faithful societies, but anonymous, which keep in touch with Vergnanini by correspondence; on the day when the reign of terror has disappeared they will again rally around their old flag."

Professor Gide points out that, meanwhile, the Fascists, who attacked the old cooperative movement ostensibly on account of its entrance into politics and its desire to take over the operation of certain public services, are now doing, themselves, the very thing they found obnoxious in the old cooperatives. True, they are not affiliated with the Socialist Party, but they are part and parcel of the Fascist régime, and even as early as 1921 were urging that Fascist cooperatives should be represented on all the agencies of the State.

A national body, the Ente Nazionale Cooperative, has been set up, which claims a membership of some 4,000 societies. Thus it is seen that nearly 14,000 societies have disappeared since 1921.

The new movement has never been unable to obtain representation on the international organization of the consumers' cooperative move-

ment, a body representing the consumers' movement in some 35 countries of the world—the International Cooperative Alliance. In the alliance Italy is still represented by Vergnanini, secretary of the old Italian league.

Workers' Productive Societies

Cooperative workshops.—It is in Italy and in France that these societies have reached their greatest development. Italy is suited for this kind of cooperation, for it has no coal and it is a land of small industries and of artistic and skilled workmen.

Although in many cases handicapped by lack of capital, cooperative workshops have prospered in Italy. In 1916 there were 640 associations with about 50,000 members and an annual business of 30,000,000 lire. They were for the most part associations of artists, workmen skilled in mosaic work, stained glass, cabinetwork, etc.

Maritime cooperatives.—There are now fishermen's cooperative societies in nearly all the Adriatic ports. These have been formed because of the necessity for obtaining fair prices for the catch and to escape the condition created by the buyers who forced the price so low that the fishermen might as well quit fishing and stay at home. These cooperative societies have succeeded so well that they have among them to-day some very powerful societies. They have, however, received much assistance from the municipalities and one, Verona, has even established a market where it sells the catch, all profits going to the cooperators.

There is also a cooperative society formed of seamen proper, the Garibaldi Association. It was established at the time when the workers all over Italy were taking possession of the factories, farms, and other means of livelihood. The Garibaldi Association was successful in obtaining from the shipowners even the money to start the enterprise. It is to-day a very strong organization, manning its own boats and owning its own fleet.

Labor cooperatives.—Another form of cooperation peculiar to Italy is that of the labor cooperative society (*cooperative de braccianti*), composed of manual laborers. This is by far the most easily formed of all societies of production. Very little capital is needed; the society simply contracts to perform labor. In Italy, contracts for public works are let to contractors on competitive bids. This led to exploitation of the workers, for the contractors, to make their profit, cut the wages of the workers. Such abuses were the cause of the formation of these labor societies, whose aim is to act as their own contractor.

The great difficulty that confronts other productive associations—that of selling the product, of finding a market—is lacking here. These associations have no difficulty in obtaining work. Their main problem, that of making the bids, they solve through the medium of a corps of trained engineers, hired by their federation.

These labor cooperatives have succeeded admirably. In 1920, before the Fascist revolution, there were from 6,000 to 7,000 labor cooperatives in Italy, a very large number, especially considering that there are almost no similar societies in any other country. "To-day they are not satisfied with undertaking earthworks, construction of ports, etc., they are penetrating even the great industries. There

are now labor cooperatives in the metal industry and a great future is opening to them."

Agricultural Societies

Among the agricultural cooperative productive associations, perhaps the most characteristic of Italy are those of the grape growers. Grape culture has been very prevalent, especially of those kinds used for wine, but of late the tendency has been toward the cultivation of raisin grapes and those for the table.

In general agriculture, also, the labor associations are found. In order to understand their significance in the life of the country, however, something should be known of the rural conditions.

Italy possesses some of the most fertile land in the world. Pressure of population, the system of great estates under absentee owners, and the peculiar organization of cultivation, however, made the condition of the rural population very bad. In many cases the large estates had lain uncultivated for so many years that much of the land had become saturated with the water so near to the surface in Italy and had become vast marshes, breeding mosquitoes and malaria. Where the land was cultivated the landlord appointed as his representative an overseer who let out the land to farmers or tenants, who in their turn often had the work done through an undermanager responsible for obtaining the necessary laborers. Each of these intermediaries took his profit, and the result was that the wages of the agricultural laborer were so low as to be almost at the starving point.

To remedy this situation the farm laborers formed associations to eliminate all these middlemen and deal directly with the overseer or manager, contracting to perform the labor of the farm, trim the vines, care for the cattle, etc. These associations have been remarkably successful. They are not, however, permanent associations. They form as work is obtained and disband when it is completed. There is a permanent form of agricultural association to which the former strive to attain. In this case the association takes over the operation of a whole estate, either working it as a whole or dividing it into small lots, each worked by a member; the former is the more common in the north and the latter in the south of Italy.

The final goal is attained when the organization is able to purchase outright the land worked first as laborers, and then as renters.

The process above outlined has been accelerated by the war and the desire to place the returned soldiers on the land. A special organization, *L'Oeuvre des Combattants*, is draining and reclaiming as fast as possible the waste land. When the land is ready for settlement preference is given to ex-soldiers, to those with large families, and to those having "respect for law and order."

Other Societies

Other types of cooperative societies found in Italy include the credit societies (people's banks and rural Raiffeisen societies), which have done much to improve the condition of the poor in Italy, and the housing societies, which have rendered great service in relieving the housing situation. These latter associations construct houses at a very low cost, obtaining their funds from a central bank, established for the purpose, which charges low rates of interest, and the State bears half of the burden even of this.

WORKERS' EDUCATION AND TRAINING

Apprentice Training on an Important Railroad System

A BRIEF report on the apprentice training scheme of the Union Pacific System was made at the last convention of the American Vocational Association,¹ by R. H. Beauchamp, a special representative of the railroad's vice president in charge of operation. The following summary is based on that report.

In the first place, the railroad management is responsible for the operation, cost, and effectiveness of this educational undertaking, which is declared to be simple, economical (except for the instruction time allowed by the company), and valuable. Among the results cited are the development of the creative, productive, and practical powers of the trainees and the building up of an organization of efficient men and good citizens. The men trained by the company have a kind of ownership feeling toward it, which has a stabilizing effect. Mechanical labor turnover has declined to a "reasonable minimum." The company is also interested in the social and home life of its apprentices, but guards against unseemly inquisitiveness or interference on the part of supervisors or instructors. The company believes, however, that "it is good business to develop high-class men." Thrift is encouraged.

Attendance

THERE are well-equipped schoolrooms in all the larger shops, and classroom attendance 4 hours a week, not to exceed 40 weeks per annum, is required. Moreover, attendance at part-time classes is encouraged, as is also special study of subjects in which the students seem to be deficient.

Instructors

THE apprentice instructors, most of whom have gone through college and have also served for a time as apprentices, have the assistance and cooperation of Federal and State departments of vocational education and of the department of vocational education of certain city schools. In addition to the instructors of apprentices, foremen are responsible for the boys under their supervision. The boys' discrepancies must never be overlooked.

Selection of Apprentices

IT IS clearly realized that the selection of lazy, irresponsible, and physically or mentally incompetent boys would prove not only a liability to the company but an injustice to the public. Among the

¹ American Vocational Association. Bul. No. 12: Proceedings of the second annual convention, at Los Angeles, Calif., Dec. 17-20, 1927. Indianapolis, 1928, pp. 73-80.

entrance requirements for apprentices is the equivalent of an eighth-grade education. The minimum age limit is 17 years. Favoritism is discouraged, and the foreman, the master mechanic or the shop superintendent and the shop instructor participate in the selection of apprentices. Furthermore, Mr. Beauchamp endeavors to have an early interview with each apprentice, who is told that his future depends upon character, ability, and application to study and work.

The minimum mental standard for acceptable applicants is determined by personal interviews and written examinations. So-called intelligence tests and psychological tests are not looked upon with favor.

Most of our supervisors and instructors would not recognize psychology dressed up in "fancy togs." But whether they realize it or not, all are applied psychologists and teachers (if not, it is a reflection on the management), and as proof outstanding of their ability in these respects, they are selecting and placing boys who are developing into just the sort of men we need; men who learn the technical as well as the practical side of their trades, and who graduate as applied psychologists and tradesmen. And if they show that undefinable something which qualifies them for leaders or specialists, they are assigned to the positions they will best fit into.

A careful check is kept upon the apprentice's conduct and work by an apprentice board of six, the membership of which includes the master mechanic or shop superintendent in charge, general foreman, three departmental foremen, and one mechanic from the seven mechanical crafts. Apprentices regard it as a serious matter to be called before the board for discipline. Fortunately, such cases are becoming exceptional.

Subjects Taught

FOR practical shop work there is a definite schedule, which may be changed, however, by the apprentice instructor. Among the subjects taught are blue-print reading, railroad shop drawing including freehand sketching, shop arithmetic, operation of air equipment, automatic train control, and radio, the last three subjects being limited to certain trades and the practical needs of the learner.

Last December a plan was under way to require each apprentice to make a detailed analysis of important jobs. Sometimes apprentices are allowed to rebuild locomotives and freight cars "as exclusive apprentice productions."

The training activities also include safety-first lectures, a plan for boys to conduct safety-first meetings and to preside at shop councils and other conferences for which they are often called upon to prepare articles to be constructively criticized. The company encourages apprentice clubs, which, however, must be promoted, financed, and conducted by the boys themselves.

Cost of Training

IN DISCUSSING the economics of the Union Pacific System's educational scheme, the vice president's representative declared that he felt that more money was being spent in this connection than should be spent, notwithstanding the absence of frills. Cheaper ways of carrying on the plan could be found, but the difficulty of fitting them into the present laws, agreements, and practices had to

be considered. If it were merely a question of making changes, he was of the opinion that certain features of the apprentice system could be handled less expensively. As a case in point, he cited the high starting rate for apprentices on most railroads, which results in attracting boys looking for immediate remunerative work rather than for an opportunity to become skilled workers. This high apprenticeship rate, like various other features, was established as a necessary measure to meet particular conditions which no longer prevail.

The mechanical trades call for skilled men, and the "railroads have always trained men and paid the cost of training. Just now we happen to have the cost localized, and it stands out like a 'sore thumb.'"

For example, say we have 1,000 apprentices attending school on company time 4 hours per day, 40 weeks per year, and the average rate of pay is 50 cents per hour. A few simple computations and we find that the cost of classroom attendance is \$80,000 per year. Those on the negative side gleefully throw the spotlight on that outstanding figure, and promptly tell you that it is an additional expense, and that the training given is not responsible for the present state of efficiency in shop operations; that tightening up of supervision, speeding up of production, etc., are the responsible factors. This is not an additional expense; it is an exposed expense.

While the training department of the Union Pacific System is not regarded as responsible for all improvements made in the mechanical department, the former, in Mr. Beauchamp's judgment, "has made a healthy contribution to the improvement" and "every venture to improve service is a training process." He is of the opinion, however, that industry should not be required to foot the whole bill of classroom attendance. He favors the 50-50 idea, namely training and wages to be the contribution of the industry; the time for study and mental development and an eager and willing spirit to render efficient service to be the contribution of the worker.

Paternalism to be Avoided

IN CONCLUDING his report the company's representative warned against paternalism, declaring that it was "rank poison to industrial progress and harmonious functioning of capital and labor."

Report of International Typographical Union Education Bureau

CONSIDERABLE progress was shown in the education work of the International Typographical Union for the year ended May 31, 1928, according to the report of that union's educational bureau made to the president of the organization.² As indicative of this progress, the following figures were presented:

	May 31, 1927	May 31, 1928
Students enrolled during year.....	1, 993	2, 184
Students graduated.....	694	1, 090
Lessons graded.....	54, 001	54, 580
Lessons and letters mailed.....	163, 730	178, 522
Printed lessons on hand.....	165, 695	294, 200

² The Typographical Journal, Indianapolis, August, 1928, pp. 30-32.

The total assets of the bureau at the date of this report were reported as \$238,070.16, against which were balanced obligations and expenditures totaling \$93,091.38, leaving a surplus of \$144,978.78. The largest item of expenditure, \$24,923.30, was for clerical assistance; the remaining expenditure for the year covered, \$15,332.58, included printing, postage, magazines, supplies, and the preparation of lessons.

New Lessons

THE most important single achievement in the development of new study courses in the year following the issuance of the final unit of the proof-reading series was the final arrangement of the linotype and intertype unit of keyboard lessons.

In this work the union's educational bureau collaborated with the Mergenthaler Linotype Co. and the Intertype Corporation. It is the first time that a scientific system of keyboard fingering has been developed in the printing industry and recommended to the trade. These lessons, which have the approval of the highest American authorities on the matter, not only include all the necessary elementary steps for the learner but valuable information and charts for more advanced operators.

The regular newspaper and job course has been revised to conform with the latest and best trade practices. It has been found that printing-trade lessons more than a decade old are useless for practical instructions. "New machinery, new type faces, new typographical styles, and new processes demand up-to-date material and treatment."

Every lesson is carefully edited before it is sent to press, so that it will meet the highest educational and trade standards.

Cooperation with Public and Parochial Schools

IT IS pointed out in the report that the increasing numbers of apprentices who take up the printing trade direct from the public and parochial schools make it more and more imperative that the union's bureau should cooperate with educational institutions which teach printing in order to assure the entrance of a superior class of students in printing-trade classes. Numerous schools "do not realize that more than average intelligence is required in the composing room" and use their printing departments as dumps for misfits and incompetents. The union's educational bureau believes that it can offer constructive counsel to such schools in regard to the requirements of the industry and higher standards of achievement, suggest desirable study courses, and when advisable recommend the appointment of able instructors.

Many schools in every State in this country and every Province in Canada are pledged to encourage and give active support to the union's educational program. Federal and State school officials have been exceedingly helpful in urging the adoption in the schools of the bureau's modern methods and instructive material. Not only are the bureau's efforts uniformly commended by school officials but they tell that bureau that "the International Typographical Union is the first labor organization in America to set up a school program in terms of trade needs and school possibilities which was workable."

That educational agency believes that its program would be even more successful if local unions were more energetically interested in the work of printing classes in their respective jurisdictions.

Organization of Apprentices

DURING the year covered by the report, a large number of unions have been carrying on effective apprentice work through the organization of apprentice clubs and junior unions. Among the most active of the reporting groups were those in Baltimore, Boston, Cincinnati, Decatur, Indianapolis, Los Angeles, New Britain, New Haven, Peoria, Portland (Oreg.), St. Louis, and Wheeling.

Teaching Home Making to Woman Wage Earners

EDUCATING woman wage earners in home making is beset with numerous vital problems, according to Miss Maude Murchie, chief of the bureau of home making education of the California State Department of Education.³ She emphasizes first the need of understanding "the psychology of adult education" and the fact that the needs of adults in this regard are very different from those of youth.

Adult schools have come to stay, and they require definite types of teachers. There is demand for numerous specialists. Adult education problems, however, have been given scant attention by teacher-training institutions.

Miss Murchie points out that teachers should get in touch with the problems of adults. "Any teacher of home making may be called upon to make contribution to any part of the community if she is capable and has had some outlook in this work. Every teacher should become familiar with the objectives of adult education and types of training."

There are other factors which should be taken into consideration. Young women should be given opportunities to get the kind of experience and training which will enable them to become leaders in the adult education field. Adults are irregular in class attendance. They must be given education in homeopathic doses—a "short unit set-up."

In California, under the Smith-Hughes Act, wage earners are segregated from those who are not wage earners. There are 8,000 or 9,000 wage-earning women in the evening classes. An ever-increasing number of women are becoming wage earners. Many of them have dual responsibilities—some are the sole support of their families. They need training and guidance in their expenditures. They should understand home management and the conservation of their time and energy.

They may be too busy to construct clothes, but they must know of simple construction of garments. They need to study dress as a whole, design, how to buy wisely, how to care for them. Among the vital problems of married women are the problems of motherhood and child nurture. We have barely touched these problems yet. We are not organized to train and select women who have had maternal experience.

³ American Vocational Association. Bul. No. 2: Proceedings of the second annual convention, at Los Angeles, Calif., Dec. 17-20, 1927. Indianapolis, 1928, pp. 119-120.

The essential thing in home education for woman wage earners is the proper selection of teachers. Many are too specialized; for example, nurses and doctors who are prone to see only the health and nutrition aspects of home education.

Miss Murchie also points out that among these adult groups there are very great differences in mentality, experience, interests, environment, realization of needs, and independence in thought and aspiration. To meet this situation it is necessary to have a substantial number of versatile teachers who have had a variety of experiences. These teachers should know the kind of jobs these woman wage earners are holding and should make their students practically aware of the civic and economic factors of life.

Some of the conclusions of California educators on home making are summed up by Miss Murchie as follows:

We find in the capacity of workers that 50 per cent of them are of average intelligence. This must be taken into consideration in teaching. Training must be of specific character, must be definite. They should be given meal schedules, proper quantities, menus, proper prices. They are, many times, people who dropped out of school early. School did not function properly for them. They now come at night. Lessons must be definite and concrete.

Next to nothing has been done in the way of educating the woman wage earners in art in the home. Centers should be set up for this purpose. These students should be encouraged to come for counsel on budgets, house furnishings, etc., for the solution of their changing problems. The average teacher should be interested in guidance. The educator in home making must not only sympathize with her pupils' problems but she "must satisfy their objectives." Home-economics teachers must be trained to understand "the philosophy of adult education." This special training should be given to "hand-picked individuals and leaders who are good material and who will make good adult education teachers." Opportunities for exposure to conditions must be found for teachers. They should get contacts and participation as cadet teachers in part-time schools. If teacher training institutions do not take advantage of such opportunities, other organizations will do so.

The educators of adults in home making must go into homes. "The short-cut method is home visiting."

State Education for Adult Workers in Massachusetts

IN 1915 a State agency for the education of people who had passed the ordinary school age was established by law in Massachusetts. The active work of the new agency, the Massachusetts Division of University Extension, began in January, 1916. A brief account of this outstanding educational undertaking is given in the *American Federationist* of August, 1928, by United States Senator David I. Walsh, from which article the following information is taken. Senator Walsh, when governor of Massachusetts, initiated and signed the legislation which made possible the undertaking he describes.

During the first five years of its existence this university extension scheme expanded steadily and by 1921 approximately 30,000 persons were registering in a single year. Since then the total registration per annum has never been below that figure. Last year the enroll-

ment was over 37,000 and it seems possible that it will reach 40,000 at the close of the current year.

Under the law the division of university extension was "authorized to cooperate with existing institutions of learning in the establishment and conduct of university extension and correspondence courses; to supervise the administration of all extension and correspondence courses which are supported in whole or in part by State revenues; and also, where it is deemed advisable, to establish and conduct university extension and correspondence courses for the benefit of the residents of Massachusetts."

Before the passage of the law other States had inaugurated university extension work as a department of their respective State universities. As a result of this connection the work in such States was restricted. Massachusetts, with no State university, decided upon a broader scheme. Its university extension was to mean a university without buildings, with a campus of 8,266 miles, with hundreds of classrooms in all sections of Massachusetts; and with teachers drawn from various universities, colleges, and other institutions in the State. In addition, instructors are drafted from the ranks of professional and business men and women.

The early courses were taken by persons who needed them the most. While the average age of the students was 30 years, many of them were 40, 50, and even 60 years old. Workers handicapped by the neglect of early education were quick to seize upon the new opportunities offered. It was found in those days, that for the most part the courses which had the strongest appeal were directly related to a definite vocation or trade. English, however, was the most popular subject.

The only requirement for registration is a reasonable indication that the would-be registrant is equipped to profit by the desired instruction.

More than 200 courses, both by correspondence and class, are now available, including among them the following subjects: English, foreign languages, mathematics, government, history, industrial and commercial subjects, science, literature, mechanical and structural engineering, drawing, textiles, and home making. Certain courses carry credit toward degrees in different colleges.

Correspondence instructors not only correct papers but also guide, counsel, and encourage their students by all possible means. These instructors are not ranked "on the number of their degrees, nor on the depth of their learning, nor on the books they have written, but on their ability to come alongside and in heart-to-heart fashion help the student to help himself."

Classes are formed in any part of the State for any group of not less than 30 persons who wish to get together for instruction in a special subject.

Regular programs of subjects are proposed twice a year in all the principal cities and larger towns and, whenever possible, even in the smaller towns. These classes meet in the schools and other public buildings through the cooperation of local authorities. The first interest of many people in a program of study may be traced to its relation to their daily occupation. This is only natural. Men in shops and factories are concerned about their jobs and the possibilities of promotion. Recognition for promotion has frequently been based upon fitness as determined by study and preparation. University extension considers that its first responsibility is to answer the call for instruction in practical subjects.

Classes in trade and industrial subjects are frequently conducted at the factories and at local trade-union headquarters. It has often happened that university extension classes are held for union members either before or after regular union business meetings. Instruction fees are exceedingly small. Because of the large number of students it is possible "to sustain the entire State program at a net cost to the Commonwealth of less than \$1 per student. The greater the increase of this educational activity the lower the cost of its upkeep will be."

Residents of other States may register for the home study courses. In 1923, when arrangements were made for broadcasting educational lectures from station WBZ in Springfield and subsequently from WBZA in Boston, people outside of Massachusetts became interested in the scheme, and its success was immediate. Since then regular courses have been broadcast every year, and in addition, text material bearing directly upon the subject of the lecture is prepared and distributed to the radio audience for a nominal sum. Furthermore, these texts include questions to be answered and problems to be worked out and talked over at home or at work.

With reference to the popularity of this method of instruction, Senator Walsh reports:

It is significant to note that in the early days of broadcasting, when distant reception was possible, students were enrolled from every State in the Union east of the Mississippi, with scattered enrollments from as far west as Montana. Large numbers of residents in the Canadian Provinces found interest in the subjects of economics, literature, music appreciation, applied psychology, and real estate law for home owners, these being the courses most successfully adapted to the radio. The reactions of listeners to this type of instruction, as evidenced by the hundreds of letters sent to the university extension office, are highly interesting.

The careful consideration given to the selection of courses was an important factor in furthering the rapid progress of university extension in Massachusetts.

The idea of university extension has permeated all parts of the social structure—all types of man and woman citizens are represented in the enrollment, from illiterate immigrants to men and women with college degrees.

Commenting on the clear-cut purpose of the students in university extension classes with which he has been in touch Senator Walsh says:

They know what they want and are very direct in their efforts to obtain it. Building-trades men are generally concerned with courses in blue-print and plan reading, building estimating, structural engineering, architectural design, and similar studies, while electricians study mathematics for electricians, practical electricity, elements of electric engineering, radio construction, and radio repairing. Courses in steam engineering, power-plant operation, automobile construction and repairing, refrigeration, and aeronautics, are also popular with skilled workmen.

University extension makes for democracy. Groups of people with very different interests and backgrounds meet in instruction classes and discuss their respective views with great freedom and cordiality. The elimination of social barriers is especially evident in the classes for public speaking.

In general, throughout the entire Commonwealth, among the progressive people of almost every community the university extension scheme has produced an attitude of appreciation and confidence.

These citizens feel that they have an organization to which they can at any time have recourse for satisfactory aid in improving themselves.

Attention is also called by Senator Walsh to the fact that the cultural courses are at present outranking the "bread and butter" courses in popularity. This was not the case in the early years of university extension. This shift of emphasis, he thinks, must not be interpreted as indicative of a declining interest in practical subjects. Indeed, the registration in such studies "have increased proportionally to the general growth." In his opinion, what this change does mean is, first, that a section of the population which previously did not avail itself of university extension is now taking advantage of the courses in literature, music, art, history, and other cultural subjects, and, second, that many who were formerly interested only in subjects directly related to their work now realize the importance and even the necessity of a wider range of study.

The law creating the division of university extension also provided for the expansion of the scheme in various directions. This expected development has taken place and the division is now "helping to point the way in living as well as in making a living."

Adult Workers' Education in Wisconsin

A REPORT on adult workers' education in Wisconsin was presented at the annual convention of the Federation of Labor of that State, at Kenosha, July 17-20, 1928. The following information is taken from that report:

The organization of labor classes was first begun in Wisconsin about eight years ago by the State federation of labor. Several classes were established as the outcome of these pioneer efforts. Before the fall of 1927 there were two or more classes in Milwaukee, Madison, and Racine. During the term 1927-28 17 classes were in operation.

In some cities two or more classes have been maintained in order to provide for a larger variety of subjects. Labor college boards constituted by city central labor bodies with the State federation's assistance have had direct charge of the conduct of classes in Appleton, Green Bay, Janesville, Kenosha, La Crosse, Lake Geneva, Madison, Milwaukee, Oshkosh, Racine, Superior, and Wisconsin Rapids.

In several cases the matter of establishing classes came up so late in the autumn that it was thought better to postpone action and make preparation for the 1928-29 term. Nearly all the first labor classes in Wisconsin began with such subjects as English, parliamentary law, the conduct of meetings, debate, and public speaking. In several cases classes in labor history and economics were formed.

The instructors for the classes were highly qualified, and reports to the State federation indicate that the students, in general, greatly appreciated their educational advantages.

Representatives of the State federation of labor will continue to aid central bodies and groups of workers to establish classes in various localities. The executive board considers the work of the Workers' Education Bureau of America to be of great value, recommends affiliation with the bureau, and suggests that the labor educational undertakings use its services according to their needs.

GROUP INSURANCE

Legal Status of Issuance of Group Life Insurance Policies to Labor Unions

By EDWIN E. WITTE, CHIEF, WISCONSIN LEGISLATIVE REFERENCE LIBRARY

Historical Background

GROUP life insurance was first written in 1912 and has had a remarkable growth. By the end of 1926, the total group life insurance in force throughout the United States was \$5,426,000,000. In Wisconsin, \$103,000,000 of group insurance was in force at the end of 1927, of which \$38,000,000 was written in the last year.

Nearly all of the group insurance outstanding has been issued to employers for the protection of their employees while continuing in employment. Quite early, however, it was proposed to extend the same form of coverage to other groups, besides the employees of a single employer. This led to the adoption of a resolution by the national convention of insurance commissioners in 1918 defining group life insurance, as follows:

Group life insurance is that form of life insurance covering not less than 50 employees with or without medical examination, written under a policy issued to the employer, the premium on which is to be paid by the employer or by the employer and employees jointly, and insuring only all of his employees, or all of any class or classes thereof determined by conditions pertaining to the employment, for amounts of insurance based upon some plan which will preclude individual selection, for the benefit of persons other than the employer; *Provided, however,* That when the premium is to be paid by the employer and employee jointly and the benefits of the policy are offered to all eligible employees not less than 75 per cent of such employees may be so insured.

It will be noted that this definition confines group life insurance to the employees of a single employer and requires that the employer must pay the premium, in whole or in part.

While relatively unimportant, some group life insurance has been written upon a broader basis than this definition of the insurance commissioners. Policies have been issued by some companies to cover National Guard and State police units, fraternal organizations, teachers and other professional associations, and, recently, labor unions.

Some group policies covering local labor unions apparently were issued by old-line companies prior to the organization in 1925 of the Union Cooperative Insurance Co., sponsored by the International Brotherhood of Electrical Workers. Only since the organization of the Union Labor Life Insurance Co., in 1927, however, has group life insurance by labor unions attracted much attention. This company was promoted by the American Federation of Labor and in less than a year had more than \$35,000,000 of insurance in force. Much of this insurance is group insurance issued to international or local unions, although this company has also issued policies to individuals.

Legislation upon Group Insurance

WHILE all, or nearly all, States now permit the writing of group insurance, this is done in a majority of the States without express statutory sanction. Only about one-fourth of the States define group insurance by statute; in fact, in most States this term does not occur in the insurance laws.¹ In these States group insurance is governed, at least in theory, by the same laws which apply to other forms of life insurance. These laws, and particularly the so-called "antidiscrimination" laws, can be construed to prohibit any and all forms of group insurance. Hence, in States which do not have special group insurance laws, the forms of group insurance which may be written depend upon the rulings of the State insurance commissioners. As will be seen later, these rulings in a number of States have sanctioned group insurance only within the limits prescribed by the national convention of the insurance commissioners in 1918, while in other States, which also have no laws upon the subject, group policies have been allowed to be written upon groups other than the employees of a single employer.

In the States which have special group insurance laws, there is the same divergence. Indiana, Iowa, Michigan, Nebraska, North Carolina, Oklahoma, Oregon, and Washington adhere to the definition of the insurance commissioners, with but minor modifications, if any. On the other hand, Arizona, California, Maine, Massachusetts, New Jersey, and New York have by statute authorized the writing of group insurance upon a broader basis.

Forms of Group Insurance Allowed to be Written

BECAUSE the legal status of the several types of group insurance depends in most States upon departmental rulings, a questionnaire was sent to the insurance commissioners of all States. Usable replies were received from only 31 States (counting the District of Columbia as a State), but these included all important industrial States except Pennsylvania.²

From the replies received it appears that 10 States adhere strictly to the definition of group insurance which was adopted by the insurance commissioners in 1918, namely, Connecticut, Florida, Indiana, Iowa, Minnesota, Nebraska, North Carolina, South Dakota, Washington, and Wisconsin. Michigan has written substantially the same definition into her statutes, but expressly authorizes the issuance of group policies to National Guard companies and by departmental rulings allows "wholesale" insurance, which is practically the same as group insurance, except that each individual who is insured must be given a separate policy containing the entire contract. In Mis-

¹ Special statutes defining and regulating group life insurance have been enacted in the following States: California (Pol. Code, secs. 629a and 629b); Indiana (Burns' Stats., secs. 8958-8962); Iowa (Laws of 1919, ch. 197); Massachusetts (Laws of 1918, ch. 112, as amended by Laws of 1921, ch. 141, and Laws of 1928, ch. 244); Michigan (Laws of 1925, Act 372); New Jersey (Laws of 1927, ch. 53); New York (Laws of 1926, ch. 129); North Carolina (Laws of 1925, ch. 58); Oregon (Laws of 1927, ch. 170); and Washington (Laws of 1927, pp. 732-735). Provisions in antidiscrimination or other general insurance laws which legalize and define group life insurance occur in: Arizona (Rev. Stats. of 1913, sec. 3449); Maine (Ins. Laws of 1925, sec. 139); Nebraska (Ins. Laws of 1925, sec. 7857); and Oklahoma (Laws of 1925, H. B. 130). Group life insurance is legalized, but not defined in: Connecticut (Laws of 1919, ch. 138); and Kansas (Laws of 1927, ch. 231, sec. 40-410).

² Besides Pennsylvania, no replies were received from Alabama, Arkansas, Colorado, Delaware, Georgia, Idaho, Kansas, Louisiana, Mississippi, Montana, New Mexico, North Dakota, Rhode Island, Texas, Utah, Virginia, and Wyoming.

souri, the department reports some group insurance policies have been written upon a broader basis than the definition of the insurance commissioners, but also expresses the opinion that these policies probably violate the antidiscrimination law of that State. In Oklahoma a group policy was issued about a year ago to a teachers' association, but this violates the statutory definition of group insurance, which differs from that of the insurance commissioners only in the minimum number of employees who may be covered by a group policy. North Carolina by statute defines group life insurance as did the insurance commissioners, but the attorney general has held that group policies may, nevertheless, be issued to National Guard companies. In all the States mentioned in this paragraph, except Michigan, group life insurance policies may not be issued to labor unions, and in Michigan such coverage maybe extended only under the "wholesale" plan.

On the other hand, in 18 States group life insurance policies may legally be issued to labor unions. These States are: Arizona, California, Illinois, Kentucky, Maine, Maryland, Massachusetts, Nevada, New Hampshire, New Jersey, New York, Ohio, Oregon, South Carolina, Tennessee, Vermont, West Virginia, and the District of Columbia. In Arizona, California, Massachusetts, New Jersey, and New York, this is expressly provided by statute, while in the remainder of these States the sanction for the issuance of group life insurance policies to labor unions is to be found in departmental interpretations of general insurance laws.³

Of the five States which by statute expressly authorize the issuance of group policies to labor unions, only Arizona has extended this right to all kinds of organizations. New York allows group policies to be issued to National Guard companies and State police units, as well as to employers and to labor unions; while California, Massachusetts, and New Jersey have broadened the 1918 definition of the insurance commissioners only to sanction group policies to labor unions. Where group insurance by labor unions is not expressly authorized, on the other hand, the insurance commissioners (except in Illinois, Kentucky, Maryland, and West Virginia), hold that group policies may be issued to any kind of an organization.

Arguments Concerning Issuance to Labor Unions

IN THE questionnaire to the insurance commissioners, they were asked to express their opinion upon the advisability of legalizing the issuance of group life insurance policies to labor unions. As was to be expected, the commissioners generally defended the position taken by their particular States and their replies are of interest only for the arguments which they present on both sides of this question.

In favor of legalization of the issuance of group life insurance policies to labor unions, the principal argument is that since employers may take out group insurance policies, the labor unions in fairness ought to be allowed to do the same thing. Group insurance, undoubtedly, has been used by some employers to keep their employees from joining labor unions and, particularly, from going on

³In Oregon a 1927 statute authorized fraternal benefit societies to write group life insurance and this has been construed by the insurance commissioner to include the Union Labor Life Insurance Co.

strike or leaving their employment. Labor unions, it is argued, should be permitted to offset such tactics by resorting to the same means to win and hold the loyalty of workingmen and to give their members freedom to seek the most favorable opportunities for employment without having to give up their insurance protection.

Besides this it is argued that many members of labor unions now have no other life insurance and that a group policy relieves the unions from the necessity of "passing the hat" when a member dies. To meet this contingency many unions have established their own death benefit funds, but many of these funds are actuarially unsound, or at least not strong financially. It is also urged that since most unions are composed of men working at the same craft and most of their members are in the prime of life, labor unions afford a homogeneous and favorable risk—an essential for group insurance.

In opposition to the legalization of the issuance of group insurance policies to labor unions, the principal argument is that such a step leads inevitably to throwing the doors wide open to group insurance for all kinds of organizations. This, it is feared, will hinder the development of individual life insurance. This, it is urged, would be very undesirable, since individual insurance admittedly affords more complete protection than does group insurance, which is essentially term insurance, terminable not at the choice of the assured, but of some other person or organization.

The only other argument against the extension of the definition of group insurance to include labor unions advanced by any of the commissioners, was that such a step would nullify the antidiscrimination laws, by allowing the members of labor unions to get life insurance at lower rates than are open to other people of the same age and classification. A breaking down of the antidiscrimination laws "will bring life insurance into disrepute," in the language of one commissioner.

Both of these negative arguments, of course, apply with equal force to group insurance of the recognized type, covering the employees of a single employer. It would appear, hence, that the question of the advisability of legalizing the issuance of group policies to labor unions in final analysis comes down to the desirability of group life insurance in any form.

LABOR ORGANIZATIONS AND CONGRESSES

Adoption of Old-Age Pension by Carpenters' Union

THE twenty-second annual convention of the United Brotherhood of Carpenters and Joiners was held during the first week in October at the new home erected by the brotherhood for its aged and disabled members at Lakeland, Fla.

One of the outstanding actions taken by the organization at the meeting was the adoption of an old-age pension plan. This has been under discussion for some time, and the erection of the home for aged brought the matter to a head, inasmuch as many members felt that some provision should also be made for aged members who could no longer work but were unwilling to leave their friends and families and enter the home.

The plan adopted provides for a pension of \$15 per month. The home is expected to be formally opened for residence January 1, 1929, but the pension fund will not commence operation until April 1, 1929.¹

By this action the brotherhood becomes the eleventh national trade-union organization to adopt a pension system, the others being the bricklayers, bridge and structural-iron workers, electrical workers, granite cutters, locomotive engineers, locomotive firemen and engine-men, printers printing pressmen, railroad trainmen, and street-railway employees. .

Widows and Orphans' Colony to be Established by Printing Pressmen

THE International Printing Pressmen and Assistants' Union has for some time been contemplating the establishment of a widows and orphans' colony in the Tennessee valley where Pressmen's Home is situated. The matter came up at the 1926 convention of the union and the project was indorsed by it. No action was taken during the two-year period, since a large endowment will be necessary to provide all the benefits which are planned.

The 1928 convention of the organization, held August 27-31, again approved the plan, and voted an individual quota per member of \$12 per year for 3 years, in order to raise the endowment fund of \$1,500,000 estimated to be necessary to finance the scheme.

It is proposed to build individual cottages, each with its plot of ground. The union undertakes to supply each cottage with ice, light, heat, chicken house and yard, water, and sewerage facilities. In addition each widow will be given an allowance of \$1 per day for herself and 50 cents for each child, a quart of milk per day, a flock of

¹ Washington Evening Star, Oct. 5, 1928, p. 36.

chickens, and medical attention, besides being able to obtain her food and household supplies at low rates.

It is hoped, also, that the interest of philanthropically inclined persons can be obtained. Two contributions have already been received, one of \$100,000 from the president of the New England Paper Supply Co., and the other of \$1,000 from the Scripps-Howard chain of newspapers.²

Bookbinders' Action Concerning Mechanization of Their Trade

AMONG the many resolutions adopted at the annual convention of the Bookbinders' International Union, held at San Francisco, July 9-14, 1928, the following is of special interest because its purpose is to provide means of coping with one of the most baffling problems of organized labor:

Whereas, the bookbinding trade which some years since was largely a hand trade has been gradually transformed into a machine trade and development along this line has been going on more rapidly in the last several years; and

Whereas, this transition through the manifold production has been displacing great numbers of our membership and creating machine operator specialists and thereby presents a problem of great complexity which constitutes a serious menace; therefore be it

Resolved, That data be gathered by our international officers in regard to new machines, and that they work out a plan as to proper control of same and try to create a uniformity of conditions throughout their jurisdiction, with the cooperation of the local unions.³

² International Printing Pressmen and Assistants' Union. Proceedings of thirty-second convention, Aug. 28-31, 1928, fifth day, pp. 8-12.

³ The International Bookbinder, Washington, Aug. 1928, p. 438.

INDUSTRIAL DISPUTES

Strikes and Lockouts in the United States in September, 1928

DATA regarding industrial disputes in the United States for September, 1928, with comparable data for preceding months are presented below. Disputes involving fewer than six workers and lasting less than one day have been omitted.

The bureau is dependent upon trade journals, newspapers, and labor periodicals for notices of strikes. These reports are followed up by correspondence and when necessary by personal visits of representatives of the conciliation service or of this bureau.

Table 1 is a summary table showing for each of the months—January, 1927, to September, 1928, inclusive—the number of disputes which began in those months, the number in effect at the end of each month, and the number of workers involved. It also shows, in the last column, the economic loss (in man-days) involved. The number of workdays lost is computed by multiplying the number of workers affected in each dispute by the length of the dispute measured in working days as normally worked by the industry or trade in question. It is to be noted that the figures given include only those disputes which have been verified by the bureau.

TABLE 1.—INDUSTRIAL DISPUTES BEGINNING IN AND IN EFFECT AT END OF EACH MONTH, JANUARY, 1927, TO SEPTEMBER, 1928

Month and year	Number of disputes		Number of workers involved in disputes		Number of man-days lost during month
	Beginning in month	In effect at end of month	Beginning in month	In effect at end of month	
January, 1927.....	37	18	5,915	2,287	58,125
February, 1927.....	65	45	9,756	5,717	115,229
March, 1927.....	74	67	13,142	8,182	214,283
April, 1927.....	87	88	202,406	199,701	5,265,420
May, 1927.....	107	116	22,245	200,702	5,136,006
June, 1927.....	80	88	18,957	196,323	4,863,345
July, 1927.....	65	63	33,994	199,287	5,308,123
August, 1927.....	57	53	8,150	198,444	4,999,751
September, 1927.....	57	58	12,282	196,829	4,945,702
October, 1927.....	50	58	13,024	82,095	2,724,117
November, 1927.....	27	51	5,282	82,607	2,040,140
December, 1927.....	28	54	4,281	81,229	2,129,153
January, 1928.....	43	62	18,263	81,676	2,135,092
February, 1928.....	47	61	33,602	104,883	2,155,559
March, 1928.....	34	63	7,145	78,362	2,343,415
April, 1928.....	62	70	143,834	134,382	4,884,430
May, 1928.....	72	74	15,138	136,094	3,526,608
June, 1928.....	40	64	20,941	134,406	3,580,719
July, 1928.....	53	60	17,232	134,102	3,365,803
August, 1928 ¹	52	67	8,579	130,853	3,610,333
September, 1928 ¹	34	59	8,268	109,461	2,651,055

¹ Preliminary figures subject to revision.

Occurrence of Industrial Disputes, by Industries

TABLE 2 gives by industry the number of strikes beginning in July, August and September, 1928, and the number of workers directly involved.

TABLE 2.—INDUSTRIAL DISPUTES BEGINNING IN JULY, AUGUST, AND SEPTEMBER, 1928

Industry	Number of disputes beginning in—			Number of workers involved in disputes beginning in—		
	July	August	September	July	August	September
Auto carriage and wagon workers.....	1			52		
Barbers.....	1	1		500	2,000	
Broom and brush workers.....			1			100
Building trades.....	9	8	5	358	561	710
Chauffeurs and teamsters.....	3	1		83	10	
Clothing workers.....	16	15	6	1,866	626	320
Fishermen.....		1			75	
Food workers.....		1			75	
Furniture workers.....	3			60		
Iron and steel workers.....		2			346	
Leather.....		1			26	
Lumber and timber workers.....		2			336	
Metal trades.....	1	2	2	12	96	56
Mine workers.....	8	4	11	12,707	3,279	5,868
Motion-picture theater workers.....	2	1	4	1,217	20	825
Printing and publishing.....	1	1		60	49	
Shipbuilding.....		2			273	
Textile workers.....	3	5	3	225	676	362
Miscellaneous.....	5	5	2	92	131	27
Total.....	53	52	34	17,232	8,579	8,268

Size and Duration of Industrial Disputes, by Industries

TABLE 3 gives the number of industrial disputes beginning in September, classified by number of workers and by industries:

TABLE 3.—NUMBER OF INDUSTRIAL DISPUTES BEGINNING IN SEPTEMBER, 1928, CLASSIFIED BY NUMBER OF WORKERS AND BY INDUSTRIES

Industry	Number of disputes beginning in September, 1928, involving:					
	6 and under 20 workers	20 and under 100 workers	100 and under 500 workers	500 and under 1,000 workers	1,000 and under 5,000 workers	5,000 workers and over
Broom and brush workers.....			1			
Building trades.....	1	3		1		
Clothing workers.....	3	2	1			
Metal trades.....	1	1				
Mine workers.....			4	6	1	
Motion-picture theater workers.....	1	2		1		
Textile workers.....	1	1	1			
Miscellaneous.....	2					
Total.....	9	9	7	8	1	

In Table 4 are shown the number of industrial disputes ending in September, by industries and classified duration.

TABLE 4.—NUMBER OF INDUSTRIAL DISPUTES ENDING IN SEPTEMBER, 1928, BY INDUSTRIES AND CLASSIFIED DURATION

Industry	Classified duration of strikes ending in September, 1928						
	One-half month or less	Over one-half and less than 1 month	1 month and less than 2 months	2 months and less than 3 months	5 months and less than 6 months	9 months and less than 10 months	17 months and less than 18 months
Broom and brush workers.....	1						
Building trades.....	6		1				
Clothing workers.....	2	4	1				
Iron and steel workers.....	1						
Leather.....	1						
Lumber and timber workers.....		1	1				
Metal trades.....	1	1					
Mine workers.....	6				1		1
Motion-picture theater workers.....	3			1		1	
Textile workers.....	3			1			
Miscellaneous.....	3		1				
Total.....	27	6	4	2	1	1	1

Principal Strikes and Lockouts Beginning in September, 1928

MUSICIANS, Illinois.—About 300 “outlying” motion-picture houses in Chicago were involved in a strike of approximately 700 musicians, members of the Chicago Federation of Musicians, beginning September 3, following the expiration of contracts between the exhibitors and the union. The question in dispute was the number of musicians to be employed in the smaller theaters.

The exhibitors issued the following statement:

The controversy with the Federation of Musicians involves no question of wages or open shop or working conditions. All the union's demands in these respects were acceded to.

Notwithstanding this, the union demands that a great many of the smaller theaters shall employ four musicians for a period ranging from 25 to 44 weeks exclusive of organist, where no musicians are, in fact, required. This demand is impossible of compliance without serious loss, which would result in many instances in financial ruin.

The difficulty ended on September 7, after a conference between representatives of the theater owners and the musicians, at which a compromise agreement was reached providing for the retention of four musicians in the smaller theaters. On the other hand the musicians met the demands of the owners by agreeing to a working schedule for a season ranging from 10 to 44 weeks instead of a full-time 44-week schedule.

Anthracite coal miners, Pennsylvania.—Because of “claimed shortage in wages” by an employee, 750 employees of the South Penn Collieries Co. at Legitt's Creek Colliery suspended work from September 11 to September 17. A satisfactory agreement was made with the aggrieved employee, without change in wages or hours.

Bituminous coal miners, Kansas.—According to press reports, approximately 700 strip miners in Kansas struck on September 24 for an adjustment of wages between strip and deep mines. The operators were unwilling to accede to their demands for a higher scale than that paid the deep miners under a new contract that became effective September 1.

The men returned to work on September 27 in compliance with orders from district union officials.

Principal Strikes and Lockouts Continuing into September, 1928

TEXTILE operatives, Massachusetts.—This strike ended just as the October issue of the Labor Review was going to press and only a brief notice of the fact was possible in that issue.

The local citizens' mediation committee and the State board of conciliation and arbitration continued their efforts to bring about an adjustment, and on September 25 recommended a settlement on the basis of a 5 per cent cut in wages instead of the 10 per cent demanded by the manufacturers.

The proposal was accepted unanimously by the manufacturers. It was rejected by the strike committee of the textile council, but the full council voted on September 28 to refer the question to the seven locals affiliated with the council. These unions rejected the proposal on October 1, four of them voting against and three in favor of it, but on a second ballot taken on October 6 the unions voted to accept the proposal, coupled with the assurance from the manufacturers that 30 days' notice will be given the operatives in the future before any general change is proposed in the wage schedule.

Nearly all the mills resumed operations on October 8 with reduced forces. By October 10 all mills had resumed operations but one, the Sharp Manufacturing Co., which is involved in financial difficulties.

The mills originally reported as affected by the strike numbered 25, exclusive of the New Bedford Spinning Co., but subsequent reports show that this company was also involved. Twenty-six plants were therefore involved in the strike.

Bituminous coal strikes.—A wage scale for Iowa coal miners based on a minimum daily wage of \$5.80 was agreed upon by representatives of miners and operators on September 28. This is said to be a reduction of 14 per cent from the Jacksonville scale. The agreement is subject to the formality of a referendum vote by members of the Iowa district of the United Mine Workers of America and the Iowa Coal Operators' Association before it goes into effect. With the settlement in Iowa the suspension of April 1, 1928, terminates.

Conciliation Work of the Department of Labor in September, 1928

By HUGH L. KERWIN, DIRECTOR OF CONCILIATION

THE Secretary of Labor, through the Conciliation Service, exercised his good offices in connection with 26 labor disputes during September, 1928. These disputes affected a known total of 45,769 employees. The table following shows the name and location of the establishment or industry in which the dispute occurred, the nature of the dispute (whether strike or lockout or controversy not having reached the strike or lockout stage), the craft or trade concerned, the cause of the dispute, its present status, the terms of settlement, the date of beginning and ending, and the number of workers directly and indirectly involved.

On October 1, 1928, there were 42 strikes before the department for settlement and in addition 22 controversies which had not reached the strike stage. The total number of cases pending was 64.

LABOR DISPUTES HANDLED BY THE UNITED STATES DEPARTMENT OF LABOR THROUGH ITS CONCILIATION SERVICE, SEPTEMBER, 1928

Company or industry and location	Nature of controversy	Craftsmen concerned	Cause of dispute	Present status and terms of settlement	Duration		Workers involved	
					Begin- ning	End- ing	Di- rectly	Indi- rectly
Broom makers, Danville, Ill.	Lockout	All employees	Proposed wage cut of 25 per cent.	Adjusted. Returned at old scale; no cut.	1928 Sept. 1	1928 Sept. 15	100	100
Steam fitters, Louisville, Ky.	Strike	Steam fitters	Working conditions	Adjusted. Pipe-cutting machinery to be operated by journeymen.	Sept. 1	Sept. 5	75	1,000
Musicians, Davenport, Iowa, and Rockford, Ill.	do	Musicians	Employment of orchestra	Adjusted. Orchestra employed as desired.	Sept. 4	Sept. 9	26	500
Columbia Theater, Davenport, Iowa, and Rockford, Ill.	Controversy	Stage hands and operators	do	do	do	do	12	---
Ferley Theater, Hazleton, Pa.	Strike	Stage hands and projectionists	Renewal of agreement	Adjusted. Terms not reported	Sept. 1	Sept. 7	4	---
Glaziers, Buffalo, N. Y.	do	Glaziers	Asked 12½ cents per hour increase.	Adjusted. 2½ cents per hour increase on Sept. 1, 1928; 5 cents per hour additional Sept. 1, 1929.	Sept. 5	Sept. 12	72	50
Wright & Keeners (Inc.), Depew, N. Y.	do	Bridge carpenters	Employment of nonunion men.	Adjusted. Company and union officials to fix terms.	do	Sept. 11	52	50
Indiana Engineering Construction Co., Buffalo, N. Y.	do	Carpenters and others	Protest against open shop	Pending	do	do	18	75
Post Office building, East Orange, N. J.	do	Carpenters and laborers	Discharge of carpenters	Adjusted. Men reinstated	Aug. 28	Sept. 6	22	10
Reynolds Tobacco Co., Winston-Salem, N. C.	Controversy	Tobacco workers	Wages, hours, and working conditions.	Pending	Aug. 25	do	11,000	---
Waterproof garment workers, Boston, Mass.	Strike	Garment makers	Asked increase in piece rates and union recognition.	do	Aug. 28	do	700	---
Peerless Textile Co., Paterson, N. J.	do	Weavers	Proposed cut of 1 cent per yard and change in hours.	Adjusted. Compromised on ½ cent cut and 10-hour day.	Sept. 6	Sept. 8	12	20
Cotton mills, New Bedford, Mass.	do	Operatives	Wage cut of 10 per cent.	Adjusted. Compromised on 5 per cent cut.	Apr. 16	Oct. 6	26,000	---
Theaters, Toledo, Ohio	do	Stage hands and electricians	Working conditions	Adjusted before arrival of commissioner.	Sept. 6	Sept. 8	14	---
Rolling mill, St. Louis, Mo.	Lockout	Iron workers	Alleged discharge of men for union activity.	Unable to adjust.	Sept. 10	do	50	---
W. I. Spruks Co., Wilkes-Barre, Pa.	Strike	Street pavers	Asked increase of 15½ cents per hour, to 50 cents.	Adjusted. Allowed 50 cents per hour.	Sept. 13	Sept. 13	14	4
Virginia Engineering Co., Cleveland, Ohio.	do	Plumbers and steam fitters	Employment of nonunion plumbers.	Pending	Sept. 17	do	250	---
R. E. Campbell Co., Sawtelle, Calif.	Controversy	Building trades	Alleged employment of alien labor.	Adjusted. Alleged aliens found to be Americans.	Sept. 15	Sept. 18	15	30
Theaters, Fort Wayne, Ind.	do	Musicians	Size of orchestras	Adjusted. Satisfactorily arranged	Sept. 20	Sept. 24	27	40

	Strike	Clothing workers	Working conditions	Pending	Aug. 1	Sept. 17	20	50
Peekskill Clothing Co., Peekskill, N. Y.	do.	Engineers and others.	Nonunion labor employed.	Adjusted. Returned without change.	Sept. 12	Sept. 17	12	150
T. E. McShaffrey Co., Akron, Ohio.	do.	Shoe workers.	Organization activities during working hours.	Partially adjusted. Few remain on strike but places filled.	Aug. 28	Sept. 19	70	---
S. Lieberman Shoe Co., Brooklyn, N. Y.	do.	Anthracite miners.	Rate of wages for rock work.	Adjusted. District officers to fix rates.	Sept. 13	Sept. 16	800	---
South Penn Collieries Co., Liggetts Creek, Pa.	do.	Metal polishers.	Asked 10 cents per hour increase.	Adjusted. Allowed increase of 10 cents per hour.	Sept. 10	Sept. 25	8	65
Superior Manufacturing Co., Carnegie, Pa.	do.	Neckwear makers.	Protest against open-shop conditions.	Adjusted. Modified union agreement signed.	Sept. 17	Sept. 20	350	---
Neckwear manufacturers, 20 shops, New York.	do.	Employees.	Objection to increasing use of one-man cars.	Adjusted. Referred to street railway board of adjustment.	Sept. 25	Sept. 25	3,900	---
Street Railway Co., Pittsburgh, Pa.	Controversy.							
Total							43,623	2,144

WAGES AND HOURS OF LABOR

Hours and Earnings in the Manufacture of Batteries and Small Motors, 1927

IN THE latter part of 1927 the Bureau of Labor Statistics of the United States Department of Labor made a study of the manufacture of certain electrical articles used in the home. Among this class of articles which have come into general use in recent years are radios, dry-cell and storage batteries, and small motors.

In the Labor Review for September, 1928, were shown the results of a study of the wages and hours of labor in the radio manufacturing industry. The present article shows similar information relating to dry-cell batteries, storage batteries, and fractional horsepower motors.

Dry-cell batteries are used in the home to operate doorbells, electrotherapy sets, flashlights, radios, etc. Storage batteries are used for radios, automobiles, lighting farm buildings, etc. Small motors are used extensively in the home on vacuum cleaners, washing machines, sewing machines, electric fans, electric refrigerators, oil furnaces, water systems, etc.

To secure the data on which the results of this study were based, agents of the bureau visited establishments located in 11 States,¹ and secured data from 25 plants (in 7 States) manufacturing dry-cell batteries, 25 plants (in 9 States) manufacturing storage batteries, and 24 plants (in 10 States) manufacturing fractional-horsepower motors. In order not to disclose the identity of any of the establishments which furnished the information, figures are shown for the United States as a whole rather than by States or districts as is the usual custom of the bureau.

The establishments from which data were collected had varying lengths of pay-roll periods—1 week, 10 days, 2 weeks, and one-half month. In order to present data for all establishments and employees on the same basis, the days, hours, and earnings were compiled for a 1-week period for the establishments that have a longer pay period; and thus the tables represent a sample normal week. All data were obtained by agents of this bureau directly from the pay rolls and other records of the establishments.

Manufacture of Batteries

AN ELECTRICAL battery consists of one or more electrical cells acting as a single source of charge or current. This study is limited to the manufacture of dry cells and storage batteries. The term "cell" is generally applied to either the unit of a dry cell or the unit of a storage battery.

¹ Connecticut, Illinois, Indiana, Massachusetts, Michigan, New Hampshire, New Jersey, New York, Ohio, Pennsylvania, and Wisconsin.

The two important factors in the arrangement of cells depend on the particular service desired. One factor is the voltage or electromotive force requirement, and the other is the quantity of current or ampere-hours required. The cells of storage batteries are generally connected in series. Dry cells are connected either in series or parallel.

When cells are connected in series to produce an increase in voltage the quantity remains as of one cell. The positive electrode or pole is connected to the negative electrode of the next cell and so on to secure the desired voltage. If, on the other hand, a larger quantity of current and a moderate voltage is desired, cells are connected in parallel; that is, the positive electrodes are connected together and the negative electrodes likewise joined. To increase both voltage and quantity of current, two or more sets of cells in series are then connected in parallel.

The active elements in a storage battery are plates of lead and lead oxide immersed in an electrolyte of sulphuric acid. The electrolyte or solution sets up chemical action through decomposition when in operation and converts chemical energy into electrical energy. Storage batteries are used extensively in farm lighting and in automobile lighting and starting.

The dry-cell battery is best suited for work of an intermittent character, such as operating doorbells, call bells, and medical equipment. The name dry cell is applied to cells which are formed generally of zinc in the shape of a cylindrical can, in the center of which is a carbon pencil surrounded by an electrolyte of a gelatinous substance so that the cell may be placed in any position without spilling the liquid. These cells are usually made in small sizes. In order to make them absolutely dry they are sealed with some resinous compound.

In converting chemical energy into electrical energy dry cells become exhausted and are discarded, but storage batteries, on the other hand, convert chemical energy into electrical energy by reactions that are reversible—that is, they may be charged by an electrical current passing through them in the opposite direction to that of their discharge. During such process electrical energy is transformed into chemical energy which at a later date may be used as electrical energy.

These two types of batteries, dry-cell and storage, are quite dissimilar in construction. A description of the occupations in each of these industries will be found later on in this article.

Dry-Cell Batteries

In the manufacture of dry-cell batteries data were obtained for 6,349 employees—3,701 males and 2,648 females. Seventeen of the most important occupations were selected for separate presentation in Table 1. The 17 occupations include 2,906 males and 2,463 females, a total of 5,369, or 84.6 per cent of all the employees covered in the study. Approximately 38 per cent of the total number of employees fell under three groups—assemblers (1,153), solderers (643), and bobbin wrappers (642).

The average number of days on which employees worked in one week ranged from 4.8 for female makers of inner and outer nests, to 5.9 for male workers in the same occupation. The average for

all males was 5.5, for all females 5.3, and for all employees, both male and female, 5.4.

The same occupation showed both the lowest and highest hours actually worked per week, ranging from 39.8 for women to 55.6 for men. The average for all males employed in the manufacture of dry-cell batteries was 49.2, for all females 44.6, and for both sexes combined 47.3. The average full-time hours per week ranged from 46.2 for paper-tube operators (males) to 52.2 for can examiners (males). The average for all males was 49.5, for all females 49.3, and for all employees, both male and female, 49.4 hours.

The average earnings per hour ranged from 37.1 cents paid to women employed as testers of cells and batteries, to 66.3 cents paid to men employed as cell cookers. The average for all males was 54.1 cents, for all females 41.6 cents, and for all employees 49.2 cents. The average actual earnings in one week ranged from \$16.02 for women testing cells and batteries to \$31.23 for men cooking cells. The average for all males was \$26.66, for all females \$18.56, and for all employees \$23.28. The average full-time earnings per week ranged from \$18.18 for women testing cells and batteries, to \$31.49 for men cooking cells. The average for all males was \$26.78, for all females \$20.51, and for all employees \$24.30.

TABLE 1.—WAGES AND HOURS OF LABOR IN THE MANUFACTURE OF DRY-CELL BATTERIES, 1927, BY OCCUPATION AND SEX

Occupation	Sex	Number of—		Average number of days on which employees worked in one week	Average hours—		Average earnings—		
		Establishments	Employees		Actually worked in one week	Full-time per week	Per hour	Actual in one week	Full-time per week
Assembler.....	Male.....	24	351	5.3	48.1	50.5	\$0.487	\$23.42	\$24.59
	Female.....	21	802	5.2	44.0	49.7	.412	18.11	20.48
Can examiners.....	Male.....	5	32	5.1	48.3	52.2	.427	20.62	22.29
	Female.....	10	79	5.2	44.5	48.6	.418	18.62	20.31
Can operators.....	Male.....	15	194	5.4	50.8	50.8	.516	26.22	26.22
	Female.....	6	60	5.7	45.1	51.1	.397	17.90	20.29
Cappers, cells.....	Male.....	21	154	5.4	47.2	48.7	.484	22.83	23.57
	Female.....	13	69	5.6	46.1	49.9	.395	18.18	19.71
Checkers and inspectors.....	Male.....	16	163	5.5	48.7	49.0	.519	25.28	25.43
	Female.....	7	47	5.2	44.7	49.8	.375	16.76	18.68
Cookers, cells.....	Male.....	14	63	5.4	47.1	47.5	.663	31.23	31.49
	Female.....	7	132	5.4	41.6	48.4	.444	18.48	21.49
Laborers, general.....	Male.....	25	424	5.5	49.0	49.9	.451	22.12	22.50
Makers, inner and outer nests.....	do.....	4	7	5.9	55.6	49.8	.410	22.76	20.42
	Female.....	5	13	4.8	39.8	49.7	.418	16.64	20.77
Packers and wrappers.....	Male.....	23	164	5.5	48.1	48.9	.502	24.17	24.55
	Female.....	20	176	5.5	46.0	49.1	.377	17.34	18.51
Paper-tube operators.....	Male.....	4	20	5.2	42.8	46.2	.609	26.09	28.14
Pourers (also called makers).....	do.....	22	29	5.8	52.9	49.2	.516	27.31	25.39
Preparers, mix.....	do.....	25	98	5.7	51.6	49.5	.548	28.31	27.13
Sealers, cells and batteries.....	do.....	24	289	5.4	50.7	50.2	.542	27.47	27.21
	Female.....	10	146	5.4	46.6	50.6	.427	19.91	21.61
Solderers.....	Male.....	22	469	5.3	47.8	49.3	.588	28.07	28.99
	Female.....	12	174	5.5	47.2	50.5	.440	20.78	22.22
Stampers, bobbins.....	Male.....	25	321	5.5	48.3	49.2	.582	28.09	28.63
Testers, cells and batteries.....	do.....	15	128	5.3	47.6	49.8	.456	21.72	22.71
	Female.....	14	123	5.1	43.2	49.0	.371	16.02	18.18
Wrappers, bobbins.....	do.....	23	642	5.2	44.6	49.8	.446	19.90	22.21
Other employees.....	Male.....	23	795	5.6	51.1	49.1	.606	30.96	29.75
	Female.....	18	185	5.3	45.4	49.9	.363	16.46	18.11
All employees.....	Male.....	25	3,701	5.5	49.2	49.5	.541	26.66	26.78
	Female.....	23	2,648	5.3	44.6	49.3	.416	18.56	20.51
	Male and female.....	25	6,349	5.4	47.3	49.4	.492	23.28	24.30

Of the 25 dry-cell manufacturing plants covered in this study, 7 paid an extra rate for overtime work; in all cases at the rate of time and a half. Of these, 5 paid overtime rates for work performed after the completion of the normal or basic day, but in one case only to time workers, in two cases only to the mechanical force (one of these also paid overtime to other employees for work after 7.30 p. m.), and in another only to the mechanical force and foremen. In one establishment overtime rates were paid after 9 hours' work Monday to Friday and 5 hours' work on Saturday, while in one plant extra rates were paid only for Sunday and holiday work.

Description of Occupation

Assemblers.—Assemble by hand the several parts that form the dry-cell battery. Place cardboard in bottom of can to prevent contact of carbon with zinc can; insert bobbin in can (cup); place top washer between bobbin and top of can or seal; place cells or cans in paper tubes ready for soldering; assemble tubes in inner nest (pasteboard containers) to form batteries; and place rubber bands around bobbins to center them in cans to prevent bobbin coming in contact with can.

Can examiners.—As cans come from the machine they are given a visual examination and packed in standard boxes.

Can operators.—Operate automatic machines making cans from roll zinc. Two rolls of zinc are placed on machine by operator—one roll for the bodies and the other for bottoms. Machine cuts zinc to size, forms body, solders body seam, places bottom in position and solders it to body, making complete can.

Where bottom soldering is a separate operation the operators fill hoppers with can bodies and tubes with bottoms and watch operation of machines. The machine feeds and brings together the bodies and bottoms and solders bottoms to bodies. Some cans are used which are not soldered, these being made either by drawing or extrusion.

Cappers, cells (cap carbon pencils).—Brass caps for contact are placed and clamped on the ends of carbons or carbon pencils by an automatic machine. Operators feed the caps and pencils to machine and watch its operation.

Checkers and inspectors.—Check for production and inspect for defects.

Cookers, cells.—After cans or cells have been filled with solution or paste they are transferred to cooking tray and pass automatically through hot water to coagulate the liquid solution or paste.

Laborers, general.—Truck or carry materials about the plant; load and unload cars, and do any unskilled work required.

Makers, inner and outer nests.—Operate a standard box-making machine which shapes and forms the box-board containers in which cells are placed to form a battery.

Packers and wrappers.—Cells and batteries, after they are completed, are placed in cartons for shipping. The operator folds the edges of the carton, places a strip of gummed paper around carton to make it secure, and stamps the date of shipment on outside of carton.

Paper-tube operators.—Heavy paper is cut from large rolls into strips of desired width and an automatic machine forms these strips into tubing of about 4-foot lengths. This tubing is then cut to cell lengths by another machine operator.

Pourers (also called "makers").—Pour the electrolyte or solution into the zinc cans around the carbon pencil.

Preparers, mix.—Weigh the ingredients used in the making of bobbins according to formula, fill the mixing machine, watch its operation, and empty the mixture when properly mixed.

Sealers, cells and batteries.—Wax, the sealing agent, is boiled in kettles and constantly stirred to prevent thickening. Operators pour the wax by hand over tops of cells or batteries to seal them and make impervious to air, and scrape off any wax that may have adhered to the cap or carbon pole or sides of cells or batteries.

Solderers.—Solder the various connections and terminals on cells and batteries, either by hand or by automatic soldering machine.

Stampers, bobbins.—As the mix automatically drops from a container above the machine to a board, the operator pushes it by hand to a die where the carbon pencil or core is automatically fed. Pressure is applied and the mix forms a coating around the carbon, thus forming a bobbin.

Testers, cells and batteries.—Cells and batteries are connected in circuit with meters for a reading test of voltage and ampere hours.

Wrappers, bobbins.—Bobbins are wrapped and tied either by hand or by machine. When by machine, the operator rolls a piece of muslin around bobbin, places it in a machine which automatically winds and ties cord around bobbin.

Other employees.—Includes all occupations not named above. They may be occupations common to all plants, but having very few employees or they may be occupations which are not customarily found.

Storage Batteries

In the manufacture of storage batteries data were obtained for 4,512 employees—4,392 males and 120 females. Sixteen of the most important occupations were selected for separate presentation in Table 2. These 16 occupations included 3,207 males and 63 females, a total of 3,270, or 72.5 per cent of all the employees covered in the study. It will be noted that in the manufacture of dry-cell batteries the sexes were rather evenly divided, there being 58.3 per cent of males and 41.7 per cent of females, but in the manufacture of storage batteries the female employees represented only 2.7 per cent of the total number of employees.

In the selected occupations the largest number of employees fell under assemblers, 630, the next largest group being grid casters, having 400, while pasters were close behind with 327.

The average number of days on which employees worked in one week ranged from 4.8 for grid trimmers, to 5.6 for plate formers, both being occupations in which only males are employed. The average for all males was 5.3, for all females, 4.9, and for all employees, both male and female, 5.3 days.

Average hours actually worked in one week ranged from 40.3 for grid trimmers, to 51.6 for plate formers. The average for all males was 45.3, for all females, 41.3, and for all employees, 45.1 hours. Average full-time hours per week ranged from 46.6 for grid trimmers to 49.7 for battery men. The average for all males was 48.6, for all females, 49.2, and for all employees, 48.6 hours.

Average earnings per hour ranged from 35.5 cents for inspectors (females) to 82 cents for grid casters (males). The average for all males was 69.8 cents, for all females, 39.2 cents, and for both sexes,

69.1 cents. Average actual earnings in one week ranged from \$15.67 for inspectors (females), to \$37.48 for pasters (males). The average for all males was \$31.61, for all females, \$16.22, and for all employees, \$31.20. Average full-time earnings per week ranged from \$16.93 for inspectors (females) to \$39.85 for grid casters (males). The average for all males was \$33.92, for all females, \$19.29, and for all employees, \$33.58.

TABLE 2.—WAGES AND HOURS OF LABOR IN THE MANUFACTURE OF STORAGE BATTERIES, 1927, BY OCCUPATION AND SEX

Occupation	Sex	Number of—		Average number of days on which employees worked in one week	Average hours—		Average earnings		
		Estab-lish-ments	Em-ploy-ees		Ac-tually worked in one week	Full time per week	Per hour	Ac-tual in one week	Full time per week
Assemblers.....	Male.....	25	606	5.2	44.1	48.6	\$0.723	\$31.93	\$35.14
	Female.....	3	24	5.0	44.4	49.3	.378	16.80	18.64
Battery men.....	Male.....	23	103	5.5	49.6	49.7	.594	29.49	29.52
Burners.....	do.....	25	131	5.5	46.1	49.6	.733	33.79	36.96
Casters, small parts.....	do.....	23	129	5.4	46.2	49.3	.680	31.40	33.52
Casters, grid.....	do.....	22	400	5.4	45.2	48.6	.820	37.11	39.85
Fillers.....	do.....	22	131	5.0	43.9	48.0	.630	27.65	30.24
Inspectors.....	do.....	18	215	5.2	43.6	48.0	.648	28.29	31.10
	Female.....	4	39	5.1	44.2	47.7	.355	15.67	16.93
Laborers, general.....	Male.....	23	207	5.4	47.2	49.4	.507	23.95	25.05
Mixers.....	do.....	22	108	5.4	46.5	49.1	.683	31.75	33.54
Packers.....	do.....	25	212	5.3	45.2	49.3	.633	28.64	31.21
Pasters.....	do.....	23	327	5.2	45.9	48.6	.817	37.48	39.71
Plate formers.....	do.....	21	232	5.6	51.6	49.0	.692	35.70	33.91
Separators.....	do.....	18	90	5.2	43.0	48.3	.740	31.78	35.74
Testers.....	do.....	16	67	5.3	45.3	46.9	.721	32.69	33.81
Trimmers, grid.....	do.....	21	160	4.8	40.3	46.6	.707	28.46	32.95
Trimmers, lugs.....	do.....	19	89	5.1	44.1	49.0	.604	26.65	29.60
Other employees.....	do.....	24	1,185	5.3	44.8	48.4	.687	30.74	33.25
	Female.....	5	57	4.6	38.1	50.3	.429	16.35	21.58
All employees.....	Male.....	25	4,392	5.3	45.3	48.6	.698	31.61	33.92
	Female.....	5	120	4.9	41.3	49.2	.392	16.22	19.29
	Male and female..	25	4,512	5.3	45.1	48.6	.691	31.20	33.58

Of the 25 establishments covered in this study, 12 paid an extra rate for overtime work. In 9 cases overtime was compensated at the rate of time and a half—in 6, after normal daily hours (in 2 to time workers only); in 1, after 10 hours; in 1 after 8 hours and for all Sunday and holiday work; and in 1 the overtime paid was based on the guaranteed rate. One plant paid time and one-fourth after normal daily hours and time and one-half on Sunday; 1 paid time and one-fourth after the regular 48 hours per week except to the plating department; and 1 paid time and one-fourth after 5 p. m. and time and one-half for Sunday and holiday work to time workers only.

Of the 25 establishments, only 1 reported a bonus system, and this applied only to the employees in the casting department and color room. This bonus was based on production. An additional percentage was paid for excess production over a set standard per day varying with the amount of excess.

Description of Occupation

Assemblers.—Place the finished elements in jars or containers and attach and seal the covers on them. Place jars or containers in battery boxes, and seal the tops together in the boxes. Connect the groups by fusion of the lead links to the electrodes of the respective groups.

Battery men.—Connect batteries in circuit with an electric current for the purpose of charging. Direct current is used in charging batteries, but when only an alternating current is available, it is converted to direct current by use of an apparatus known as a "rectifier."

Burners.—After the plates have been formed and dried and while still in the racks the lugs on the plates are joined by fusion to the straps or pillar posts. The straps or pillar posts are the electrodes of either the positive or negative group. After a certain number of plates have been joined together as above described they are called groups. When the burner is joining the plates together into groups, there is always placed in the positive group one less plate than in the negative group. When in position or formed into an element, there is a negative plate on each side of a positive plate.

Casters, grid.—Melt lead in large pot. This lead is usually poured by hand ladle into a 2-piece mold similar to a waffle iron to form the grid. Grids serve as supports for the active material of the plates.

Casters, small parts.—This work is similar to that of casters, grid, except that the molds are much smaller, being used to form straps or connectors.

Fillers.—Fill the cells with diluted sulphuric acid.

Inspectors.—Make visual inspection of all the various parts in order to locate defects.

Laborers, general.—Truck and move materials, load and unload cars and trucks, and do other unskilled work.

Mixers.—Use two oxides of lead. They place a predetermined quantity of the oxides and dilute sulphuric acid in the mixing machine. Sometimes a solution of ammonium sulphate or magnesium sulphate is used instead of sulphuric acid. The machine automatically mixes these ingredients to the consistency of a thick paste.

Packers.—Box and pack batteries for shipment.

Pasters.—Attach the grids to a conveyor which drags them through a trough filled with the mix. The mix which adheres is pressed on to the grid by a device at the end of the conveyor. In the smaller plants where hand pasting is done, these employees work on an inclined pasting board to which is fastened a piece of plate glass with a trough at the bottom. Grids to the number of 6 or 8 are placed at one time on the glass and the active material or mix, which is in the trough, is applied or "pasted on" to the grids with a small wooden paddle. After grids have been filled with paste they become plates.

Plate formers.—Plates are placed in racks and immersed in a tank containing a solution of sulphuric acid called a "pickle." When in position there is a positive plate in opposition to each negative plate. A current of electricity is then passed through them. As the current of electricity is passed through the plates, the plate at which the current enters, the positive, slowly becomes brown in color and the plate at which the current leaves, the negative, turns a dark bluish-gray or typical lead color. The time required for the formation of plates varies with the material in the plates and the strength of the current.

Separators.—Fit a positive and negative group into each other and place between the positive and negative plates a thin sheet of grooved wood called a separator, which has been treated to eliminate any trace of acetic acid. In operation this equalizes the action of the

positive plates. The object of inserting these wood separators is to keep the positive and negative plates from coming in contact with each other. These assembled groups are called elements.

Testers.—These employees make various tests to locate grounds or short circuits. Capacity and voltage tests are also made by meter readings.

Trimmers, grid.—Place grids in punch-press machine to cut off rough edges.

Trimmers, lug.—Cut off the protuberance or "gate" from the lugs.

Other employees.—Includes all occupations not named above. They may be occupations common to all plants, but having few employees, or they may be occupations which are not ordinarily found.

Manufacture of Fractional-Horsepower Motors

THIS study primarily was intended to include only such establishments as were engaged in the manufacture of fractional horsepower motors. In the 24 establishments from which data were secured, at least 90 per cent of the motors manufactured were those of 1 horsepower or less, although some few plants, on special orders, manufactured motors up to 10 horsepower. Only 4 of the establishments maintained foundries, the others finding it more economical to buy their castings. The machine shops included in the study were engaged in the machining of parts which were later assembled in the motor assembly department.

Data were obtained for 5,358 employees—3,872 males and 1,486 females. The data are presented under four headings—assembling department, foundry, machine shop, and unclassified. In the unclassified division have been placed laborers and also "other employees" who may be peculiar to any one of the three general divisions named or common to all of them. The occupations included under other employees did not appear important enough to show separately with the other divisions and have therefore been grouped under this heading. In the assembling department, 7 of the most important occupations were selected for separate presentation. These 7 occupations included 1,353 males and 1,167 females, a total of 2,520 employees. In the several occupations subassemblers have by far the largest number of employees, totaling 991. In the foundry, 5 of the most important occupations were selected for separate presentation. These 5 occupations cover only 114 employees, all of whom are males. In the machine shop 14 of the most important occupations are shown. These include 1,485 males and 69 females, a total of 1,554.

The average number of days on which employees worked in one week ranged from 4.8 for chippers and molders (males), to 5.9 for punch-press hands and operators (females), the average for all males being 5.5, for all females 5.2, and for all employees, both male and female, 5.4 days.

The average hours actually worked in one week ranged from 41.4 for hydraulic press riveters (males) to 50.2 for pattern makers (males). The average for all males was 45.8, for all females 42.7, and for all employees, 45 hours. The average full-time hours per week ranged from 46.3 for core makers (males) to 53 for cupola tenders (males), the average for all males being 48.9, for all females 48, and for all employees, 48.6.

The average earnings per hour ranged from 36.2 cents for packers (females) to 93.6 cents for pattern makers (males), the average for all males being 64.2 cents, for all females, 42.9 cents, and for all employees, 58.6 cents. The average actual earnings in one week ranged from \$15.58 for packers (females), to \$46.99 for pattern makers (males), the average for all males being \$29.43, for all females \$18.34, and for all employees, \$26.36. The average full-time earnings per week ranged from \$18.17 for packers (females), to \$45.68 for pattern makers (males), the average for all males being \$31.39, for all females \$20.59, and for all employees, \$28.48.

TABLE 3.—WAGES AND HOURS OF LABOR IN THE MANUFACTURE OF FRACTIONAL HORSEPOWER MOTORS, 1927, BY OCCUPATION AND SEX

Occupation	Sex	Number of—		Average number of days on which employees worked in one week	Average hours—		Average earnings		
		Es- tab- lish- ments	Em- ploy- ees		Ac- tually worked in one week	Full time, per week	Per hour	Actual, in one week	Full time, per week
Assembling									
Armature winders, hand and machine.	Male	7	41	5.8	47.6	49.0	\$0.568	\$27.03	\$27.83
	Female	16	227	5.0	42.2	47.8	.426	18.01	20.36
Assemblers, final	Male	21	273	5.5	45.9	48.8	.644	29.58	31.43
	Female	6	40	5.5	45.5	49.1	.374	17.01	18.36
Assemblers, sub	Male	22	404	5.5	45.7	49.0	.586	26.79	28.71
	Female	15	587	5.3	43.5	47.9	.428	18.63	20.50
Coil winders	Male	7	14	5.5	44.8	49.3	.421	18.84	20.76
	Female	18	204	5.3	44.1	48.2	.430	18.95	20.73
Inspectors and testers	Male	21	357	5.5	43.5	49.2	.657	28.56	32.32
	Female	9	98	5.6	45.4	48.1	.456	20.69	21.93
Packers	Male	17	120	5.7	47.4	48.5	.540	25.58	26.19
	Female	5	11	5.0	43.0	50.2	.362	15.58	18.17
Repairers	Male	18	144	5.5	43.6	49.2	.569	24.80	27.99
Foundry									
Chippers	Male	3	33	4.8	45.0	47.2	.547	24.62	25.82
Core makers	do	4	13	5.6	46.3	46.3	.874	40.41	40.41
Cupola tenders	do	3	4	5.0	47.1	53.0	.729	34.30	38.64
Molders	do	4	50	4.8	41.7	47.4	.885	36.89	41.95
Pattern makers	do	4	14	5.7	50.2	48.8	.936	46.99	45.68
Machine shop									
Boring-mill hands and operators	Male	3	5	5.6	49.0	50.0	.730	35.79	36.50
Drill-press hands and operators	do	18	156	5.3	45.0	48.8	.596	26.85	29.08
	Female	3	20	5.4	43.6	47.2	.431	18.78	20.34
Grinding-machine hands and operators	Male	16	175	5.4	45.1	48.4	.703	31.67	34.03
Lathe hands and operators	do	18	247	5.5	45.6	48.7	.709	32.37	34.53
Machine hands and operators, general	do	9	55	5.6	47.5	49.5	.564	26.82	27.92
Machine setters	do	9	79	5.5	46.7	48.6	.703	32.84	34.17
Machinists	do	9	45	5.6	47.9	49.2	.684	32.77	33.65
Milling-machine hands and operators	do	9	60	5.2	44.3	48.8	.658	29.11	32.11
Polishers and buffers	do	8	26	5.0	43.4	50.2	.749	32.53	37.60
Punch-press hands and operators	do	19	229	5.2	44.7	49.2	.621	27.72	30.55
	Female	3	49	5.9	47.7	48.2	.374	17.84	18.03
Riveters (hydraulic press)	Male	3	11	5.0	41.4	48.3	.739	30.57	35.69
Screw-machine hands and operators	do	15	153	5.5	47.5	49.0	.678	32.22	33.22
Toolmakers	do	15	232	5.6	48.1	49.4	.807	38.81	39.87
Welders	do	8	12	5.3	43.8	47.8	.595	26.04	28.44
Unclassified									
Laborers, general	Male	17	198	5.5	46.9	48.7	.493	23.14	24.01
Other employees	do	21	722	5.6	46.7	48.7	.632	29.54	30.78
	Female	10	250	4.5	37.8	48.0	.448	16.94	21.50
All employees									
	Male	24	3,872	5.5	45.8	48.9	.642	29.43	31.39
	Female	18	1,486	5.2	42.7	48.0	.429	18.34	20.59
	Male and female	24	5,358	5.4	45.0	48.6	.586	26.36	28.48

Of the 24 establishments covered in this study, 8 had some form of extra pay for overtime. Three establishments paid time and one-half after normal daily hours and double time for Sunday and holiday work; 1 paid time and one-half after normal daily hours; 1 plant in which normal hours were $8\frac{3}{4}$ Monday to Friday and $4\frac{1}{4}$ on Saturday paid time and one-half after 9 hours per day; 1 in which normal hours were 9 per day Monday to Friday and 4 on Saturday paid time and one-half after $9\frac{1}{2}$ hours Monday to Friday and 4 hours Saturday for males, and after $8\frac{1}{2}$ hours Monday to Friday and 4 hours Saturday for females; 1 paid time and one-half for work over 50 hours per week; and 1 paid time and one-half for Sunday and holiday work only.

Five establishments reported bonus systems. One of these was based on attendance and four on production. The establishment reporting attendance bonus added 5 per cent to the earnings if time lost amounted to less than 30 minutes per week. All of the production bonuses were based on arbitrary standards set by a time study of the various occupations. The efficiency standard or minimum acceptable production and also the scale or rate varies in each establishment. The scale or rate is usually graduated, beginning at the minimum standard of efficiency and gradually increasing as the production increases.

Description of Occupations

Assembling:

Armature winders, hand and machine.—Small armatures, such as are included in this study, are frequently wound directly on the core by machine; however, data are reported for both hand and machine wound armatures.

Assemblers, final.—Place motors in frames, attach starter switches, connect terminal leads to binding posts, and bolt the end shields or brackets to inclose the motor.

Assemblers, sub.—Attach brushes, commutators, and other small parts; solder terminals; and insert or drive coils or skeins between the laminations. The laminations are a series of silicon steel disks which form a core.

Coil winders (skein winders).—Wind coils by machine. The machine is set to form the desired size coil or skein.

Inspectors and testers.—Inspectors make meter test, light test, and growler test. The meter test is made by placing wound parts in circuit with a meter. Light test is made by placing parts in circuit with bulb. A thin strip of steel is used in connection with the growler test. In case of a short circuit or ground the motor "grows" and vibrates and shakes the strip of steel from the motor. Tester makes final test by running of housed motor.

Packers.—Grease shaft extensions, attach protecting blocks, and place in cartons.

Repairers.—Repair defects in motors that do not pass inspection. These motors are then thoroughly tested and inspected again.

Foundry:

Chippers.—Cut or chip projecting points from the castings, using hammer and cold chisel or pneumatic chisel.

Core makers.—Make cores of sand and liquid binder and possibly other substances, using mold or core box to shape the cores. Cores are used in molds to make hollows in castings.

Cupola tenders.—Attend to cupola in which pig iron, scrap, or steel is melted, tap or open the cupola, and run the melted metal into ladles.

Molders.—Make the molds for castings and pour melted metal into the molds from ladles.

Pattern makers.—Make the patterns, which are models constructed of wood or metal.

Machine shop:

Boring-mill hands and operators.—Run either vertical machines known as boring mills or horizontal boring machines.

Drill-press hands and operators.—Run a gang drill, radial drills or other types of drill press.

Grinding-machine hands and operators.—Run grinding machines which give a fine finish to external or internal surfaces.

Lathe hands and operators.—Run engine or turret lathes.

Machine hands and operators, general.—Under this term are grouped operators of machine tools not classified separately.

Machine setters.—Adjust and set the cutting parts of a machine tool for the machine hand or operator.

Machinists.—Skilled and experienced workmen, using various machine tools in the production of accurate metal parts, or those who repair and adjust machine tools.

Milling-machine hands and operators.—Run any of the various types of milling machines.

Polishers and buffers.—Use a grinding wheel to polish metals to be plated, or a buffing wheel to buff the plated parts.

Punch-press hands and operators.—Operate hydraulic press making metal stampings and laminations.

Riveters (hydraulic press).—Use press to rivet together the laminations.

Screw-machine hands and operators.—Operate hand or automatic screw machines.

Toolmakers.—Make and repair cutting tools, such as drills, reamers, boring tools, etc.

Welders.—Use hand torch or an electric arc to weld or join steel parts.

Unclassified:

Laborers, general.—Truck and move material, and load and unload cars.

Other employees.—Includes all occupations not named above. They may be occupations common to all plants, but having very few employees, or they may be occupations not commonly found.

Wages and Hours of Labor in Woolen and Worsted Goods Manufacturing, 1928

THE Bureau of Labor Statistics of the United States Department of Labor recently completed the 1928 study of wages and hours of labor in the woolen and worsted goods manufacturing industry in the United States. Data were collected by agents of the bureau directly from the pay rolls and other records of 92 representative establishments in Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, and Vermont, for a total of 21,049 males and 17,801 females. These States are the most important in number of wage earners in the industry, according to the 1925 Census of Manufactures, and the number of wage earners employed in them represents approximately 90 per cent of all in the industry in the United States. The 38,850 employees covered in the 1928 study represent 26 per cent of the total number of wage earners in the nine States in 1925, and 23½ per cent of all in the United States in that year.

The 1928 industry averages of full-time hours per week, earnings per hour, and full-time earnings per week, and like figures for each of the specified years from 1910 to 1926, with index numbers of these averages (the 1913 average being taken as the base or 100 per cent) are presented in Table 1. The 1928 figures in greater detail will be available later in bulletin form.

The figures for the years from 1910 to 1914 are for selected occupations only,² but those for the years from 1914 to 1928 are for the wage earners in all occupations in the industry. Two sets of figures are shown for 1914—one for 18,333 employees in the selected occupations in 48 establishments, and the other for 40,061 employees in all occupations in the 48 establishments.

Average full-time hours per week for employees in all occupations in the industry in 1914 were one-tenth of an hour per week (or 0.18 per cent) more than for those in the selected occupations only, and average earnings were 2 cents per hour (or approximately 9.9 per cent) less and \$1.03 per week (or 9.3 per cent) less. Between 1926 and 1928 there was no change in average full-time hours per week, but average earnings increased 2.3 cents per hour (or 4.7 per cent) and \$1.13 per week (or 4.7 per cent).

The index numbers are shown (on the basis of the 1913 average = 100) for the purpose of making comparison one year with another for the entire period from 1910 to 1928. Those for the selected occupations for each of the years from 1910 to 1914 are simple percentages with the 1913 average as the base. Those for all occupations for each of the years from 1914 to 1928 are as computed by increasing or decreasing the 1914 index for selected occupations in proportion to the increase or decrease in the average for all occupations as between 1914 and the specified succeeding year.

Average full-time hours per week increased from an index of 101.3 in 1910 to 101.6 in 1911, decreased to 86.2 in 1920, and then gradually increased to 88 in 1926 and 1928. The decrease between 1913 and

² The wage studies made by the bureau in this and other industries prior to 1914 were, on account of lack of funds and of time necessary to collect and compile wage reports, limited to certain selected or major occupations.

1920 was 13.8 per cent. The increase between 1920 and 1928 was 2.1 per cent.

Average earnings per hour increased from an index of 90.4 in 1910 to 353.7 in 1920 and then dropped to 267 in 1922, increased to 300.2 in 1924, decreased to 276.5 in 1926, and increased to 289.5 in 1928. The increase between 1913 and 1920 was 253.7 per cent, and the decrease between 1920 and 1928 was 18.2 per cent.

Average full-time earnings per week to a very great extent followed the trend of average earnings per hour, increasing from an index of 91.2 in 1910 to 303.6 in 1920, decreasing to 231.5 in 1922, increasing to 262 in 1924, decreasing to 242.3 in 1926, and increasing again to 253.7 in 1928. The increase between 1913 and 1920 was 203.6 per cent, and the net decrease between 1920 and 1928 was 16.4 per cent. The difference in the trend as between average full-time earnings per week and average earnings per hour was due to the changes from year to year in average full-time hours per week.

TABLE 1.—AVERAGE HOURS AND EARNINGS WITH INDEX NUMBERS, 1910 TO 1928

	Year	Number of establishments	Number of employees	Average full-time hours per week	Average earnings per hour	Average full-time earnings per week	Index numbers of—		
							Full-time hours per week	Earnings per hour	Full-time earnings per week
Selected occupations.....	1910	19	11,912	56.6	\$0.178	\$10.05	101.3	90.4	91.2
	1911	27	16,342	56.8	.179	10.18	101.6	90.9	92.4
	1912	46	17,517	55.9	.201	11.23	100.0	102.0	101.9
	1913	47	15,653	55.9	.197	11.02	100.0	100.0	100.0
	¹ 1914	48	18,333	54.9	.202	11.06	98.2	102.5	100.4
All occupations.....	¹ 1914	48	40,061	55.0	.182	10.03			
	1916	61	49,954	54.8	.225	12.34	97.8	126.7	123.5
	1918	63	51,928	54.3	.342	18.57	97.0	192.6	185.9
	1920	67	38,164	48.3	.628	30.33	86.2	353.7	303.6
	1922	67	39,430	48.8	.474	23.13	87.1	267.0	231.5
	1924	72	41,622	49.1	.533	26.17	87.7	300.2	262.0
	1926	112	39,970	49.3	.491	24.21	88.0	276.5	242.3
	1928	92	38,850	49.3	.514	25.34	88.0	289.5	253.7

¹ Two sets of averages are shown for 1914 for the industry; one for selected occupations and the other for all occupations in the industry. The 1910 to 1914 averages for selected occupations only are comparable one year with another, as are those for all occupations one year with another from 1914 to 1928.

Table 2 shows 1926 and 1928 average full-time hours per week, earnings per hour, and full-time earnings per week for all males and all females, separately, in each of the selected occupations in the industry and for employees in all other occupations combined.

From 1926 to 1928, the average full-time hours per week of males in all occupations combined increased from 49.3 to 49.4, but those of females decreased from 49.3 to 49.2. During the same period average earnings per hour for males increased from 54.5 to 56.8 cents and those of females increased from 41.8 to 43.8 cents, while average full-time earnings per week of males increased from \$26.87 to \$28.06 and of females increased from \$20.61 to \$21.55.

Average full-time hours per week of males in 1926 in the various occupations ranged from 48.2 for doffers to 50.8 for wool sorters and of females from 48 for wool sorters to 51 for gill-box tenders. The 1928 averages for males ranged from 48.2 for drawing-frame tenders

to 53.2 for gill-box tenders and for females ranged from 48.1 for card tenders to 50.3 for gill-box tenders, comber tenders, and doffers.

Average earnings per hour of males in 1926 ranged from 28.8 cents for doffers to 80.7 cents for loom fixers and of females from 28 cents for doffers to 69.8 cents for wool sorters. The 1928 averages for males ranged from 30.3 cents for doffers to 82.1 cents for loom fixers and for females ranged from 28.4 cents for doffers to 60.5 cents per hour for weavers.

Average full-time earnings per week of males in 1926 ranged from \$13.88 for doffers to \$39.54 for loom fixers and of females ranged from \$13.97 for doffers to \$33.50 for wool sorters. The averages for males in 1928 ranged from \$15.24 for doffers to \$40.23 for loom fixers and for females ranged from \$14.29 for doffers to \$29.52 for weavers.

TABLE 2.—AVERAGE HOURS AND EARNINGS, 1926 AND 1928, BY OCCUPATIONS

Occupation	Sex	Year	Number of establishments	Number of employees	Average full-time hours per week	Average earnings per hour	Average full-time earnings per week
Wool sorters.....	Male.....	1926	30	445	50.8	\$0.713	\$36.22
		1928	22	392	49.9	.728	36.33
	Female.....	1926	2	37	48.0	.698	33.50
		1928	2	27	48.3	.565	27.29
Wool-washer tenders.....	Male.....	1926	33	122	50.2	.463	23.24
		1928	25	105	50.6	.484	24.49
Picker tenders.....	do.....	1926	56	245	49.7	.438	21.77
		1928	56	306	49.5	.457	22.62
Card tenders.....	do.....	1926	70	531	49.8	.419	20.87
		1928	62	550	50.3	.447	22.48
	Female.....	1926	19	166	48.7	.365	17.78
		1928	15	136	48.1	.383	18.42
Card strippers.....	Male.....	1926	73	381	49.5	.464	22.97
		1928	65	351	49.7	.475	23.61
Card grinders.....	do.....	1926	18	36	49.6	.537	26.64
		1928	17	42	49.3	.529	26.08
Gill-box tenders.....	do.....	1926	13	209	50.1	.405	20.29
		1928	7	282	53.2	.392	20.85
	Female.....	1926	21	296	51.0	.326	16.63
		1928	20	393	50.3	.382	19.21
Comber tenders.....	Male.....	1926	10	171	50.5	.478	24.14
		1928	9	222	51.4	.484	24.88
	Female.....	1926	17	163	49.9	.378	18.86
		1928	17	150	50.3	.456	22.94
Drawing-frame tenders.....	Male.....	1926	9	271	48.8	.380	18.54
		1928	6	66	48.2	.386	18.61
	Female.....	1926	26	1,753	49.7	.352	17.49
		1928	25	1,766	49.4	.356	17.59
Spinners, mule.....	Male.....	1926	69	1,249	49.7	.695	34.54
		1928	61	1,106	49.5	.684	33.86
Spinners, frame.....	Female.....	1926	23	1,228	49.8	.362	18.03
		1928	22	1,281	49.7	.383	19.04
Doffers.....	Male.....	1926	5	47	48.2	.288	13.88
		1928	9	73	50.3	.303	15.24
	Female.....	1926	22	701	49.9	.280	13.97
		1928	20	588	50.3	.284	14.29
Twister tenders.....	do.....	1926	65	1,117	49.7	.364	18.09
		1928	57	1,319	50.0	.354	17.70
Spool tenders.....	do.....	1926	95	1,283	49.1	.391	19.20
		1928	82	1,407	49.0	.371	18.18
Dresser tenders.....	Male.....	1926	95	545	49.1	.705	34.62
		1928	79	583	49.0	.700	34.30
Drawers-in.....	do.....	1926	22	59	50.2	.666	33.43
		1928	6	16	51.7	.693	35.83
	Female.....	1926	84	533	48.9	.497	24.30
		1928	80	624	48.7	.525	25.57
Loom fixers.....	Male.....	1926	99	748	49.0	.807	39.54
		1928	83	692	49.0	.821	40.23

TABLE 2.—AVERAGE HOURS AND EARNINGS, 1926 AND 1928, BY OCCUPATIONS—Contd

Occupation	Sex	Year	Number of establishments	Number of employees	Average full-time hours per week	Average earnings per hour	Average full-time earnings per week
Weavers.....	Male.....	1926	97	5,528	48.9	\$0.652	\$31.88
		1928	83	4,641	48.9	.678	32.18
	Female.....	1926	89	2,748	49.2	.600	29.52
		1928	79	2,419	48.8	.605	29.52
Cloth inspectors.....	Male.....	1926	23	235	48.3	.563	27.19
		1928	31	281	48.6	.572	27.80
	Female.....	1926	21	103	49.6	.421	20.88
		1928	11	75	48.5	.428	20.76
Burlers.....	do.....	1926	90	1,722	49.3	.381	18.78
		1928	79	1,691	49.3	.383	18.88
Menders.....	do.....	1926	91	2,121	48.6	.507	24.64
		1928	82	2,086	48.5	.488	23.67
Perchers.....	Male.....	1926	91	462	49.1	.559	27.45
		1928	80	470	48.8	.567	27.67
	Female.....	1926	16	97	48.6	.482	23.43
		1928	13	65	48.6	.438	21.29
Fullers.....	Male.....	1926	75	223	49.4	.464	22.92
		1928	68	259	49.0	.494	24.21
Washer tenders, cloth.....	do.....	1926	85	353	49.7	.442	21.97
		1928	73	378	50.0	.462	23.10
Dryer tenders, cloth.....	do.....	1926	84	222	49.9	.444	22.16
		1928	71	230	50.1	.468	23.45
Truckers.....	do.....	1926	93	1,236	48.9	.408	19.95
		1928	79	1,419	48.5	.417	20.22
Laborers, dyehouse.....	do.....	1926	82	1,008	49.4	.445	21.98
		1928	72	962	49.1	.463	22.73
Other employees.....	do.....	1926	112	7,826	49.4	.480	23.71
		1928	92	7,623	49.5	.501	24.80
	Female.....	1926	105	3,750	49.4	.346	17.09
		1928	86	3,774	49.2	.355	17.47
All employees.....	Male.....	1926	112	22,152	49.3	.545	26.87
		1928	92	21,049	49.4	.568	28.06
	Female.....	1926	112	17,818	49.3	.418	20.61
		1928	92	17,801	49.2	.438	21.55
All employees, male and female.....		1926	112	39,970	49.3	.491	24.21
		1928	92	38,850	49.3	.514	25.34

Table 3 presents, for each State, 1928 average full-time hours per week, earnings per hour, and full-time earnings per week of employees in eight of the selected occupations in the industry to illustrate the variations in hours and earnings in each occupation in different States.

In the occupation of weavers, for instance, average full-time hours per week of males ranged in the different States from 48 to 50.8 and those of females from 48 to 50.9 per week. The average for all males in this occupation was 48.9 and for all females 48.8 per week. Average earnings per hour of males ranged from 58.4 to 68.8 cents and those of females from 48.4 to 65.5 cents per hour, while the average for all males was 65.8 cents and for all females 60.5 cents per hour. Average full-time earnings per week of males ranged from \$28.03 to \$33.99 and those of females from \$24.35 to \$31.57 per week. The average for all males in the occupation was \$32.18 and for all females \$29.52 per week.

TABLE 3.—AVERAGE HOURS AND EARNINGS FOR EIGHT SELECTED OCCUPATIONS, 1928, BY SEX AND STATE

Occupation, sex, and State	Number of establishments	Number of employees	Average full-time hours per week	Average earnings per hour	Average full-time earnings per week
Card tenders, male:					
Connecticut.....	9	58	49.7	\$0.425	\$21.12
Maine.....	15	71	50.2	.426	21.39
Massachusetts.....	9	148	50.6	.420	21.25
New Hampshire.....	4	42	52.5	.406	21.32
New Jersey.....	5	85	48.0	.567	27.22
New York.....	3	28	52.4	.426	22.32
Pennsylvania.....	9	56	53.2	.464	24.68
Rhode Island.....	6	40	48.9	.413	20.20
Vermont.....	2	22	48.0	.463	22.22
Total.....	62	550	50.3	.447	22.48
Card tenders, female:					
Maine.....	7	36	47.8	.352	16.83
Massachusetts.....	4	69	48.0	.376	18.05
New Hampshire.....	1	(1)	(1)	(1)	(1)
New Jersey.....	2	21	48.0	.477	22.90
Pennsylvania.....	1	(1)	(1)	(1)	(1)
Total.....	15	136	48.1	.383	18.42
Drawing frame tenders, male:					
Massachusetts.....	2	55	48.0	.384	18.43
New Hampshire.....	1	(1)	(1)	(1)	(1)
New Jersey.....	1	(1)	(1)	(1)	(1)
Rhode Island.....	2	5	48.0	.443	21.26
Total.....	6	66	48.2	.386	18.61
Drawing frame tenders, female:					
Maine.....	1	(1)	(1)	(1)	(1)
Massachusetts.....	4	798	48.0	.375	18.00
New Hampshire.....	1	(1)	(1)	(1)	(1)
New Jersey.....	4	176	48.0	.384	18.43
New York.....	2	84	48.0	.357	17.14
Pennsylvania.....	6	341	53.7	.312	16.75
Rhode Island.....	6	271	48.4	.360	17.42
Vermont.....	1	(1)	(1)	(1)	(1)
Total.....	25	1,766	49.4	.356	17.59
Spinners, mule, male:					
Connecticut.....	9	157	49.3	.627	30.91
Maine.....	15	201	49.1	.668	32.80
Massachusetts.....	9	302	48.6	.767	37.28
New Hampshire.....	5	85	50.3	.684	34.41
New Jersey.....	3	39	48.0	.793	38.06
New York.....	4	103	50.9	.654	33.29
Pennsylvania.....	8	109	53.6	.549	29.43
Rhode Island.....	5	76	48.0	.758	36.38
Vermont.....	3	34	48.0	.658	31.58
Total.....	61	1,106	49.5	.684	33.86
Spooler tenders, female:					
Connecticut.....	10	103	48.9	.370	18.09
Maine.....	15	134	49.7	.408	20.28
Massachusetts.....	12	519	48.0	.382	18.34
New Hampshire.....	5	72	51.9	.391	20.29
New Jersey.....	6	105	48.4	.406	19.65
New York.....	4	58	48.4	.429	20.76
Pennsylvania.....	16	179	52.2	.315	16.44
Rhode Island.....	11	173	48.0	.360	17.28
Vermont.....	3	64	48.0	.327	15.70
Total.....	82	1,407	49.0	.371	18.18
Loom fixers, male:					
Connecticut.....	10	45	49.1	.755	37.07
Maine.....	16	58	50.5	.769	38.83
Massachusetts.....	12	226	48.2	.840	40.49
New Hampshire.....	5	36	50.5	.692	34.95
New Jersey.....	5	73	48.9	.937	45.82
New York.....	4	36	50.4	.707	35.63
Pennsylvania.....	16	63	50.6	.879	44.48

¹ Data included in total.

TABLE 3.—AVERAGE HOURS AND EARNINGS FOR EIGHT SELECTED OCCUPATIONS, 1928, BY SEX AND STATE—Continued

Occupation, sex, and State	Number of establishments	Number of employees	Average full-time hours per week	Average earnings per hour	Average full-time earnings per week
Loom fixers, male—Continued.					
Rhode Island.....	12	124	48.5	\$0.814	\$39.48
Vermont.....	3	31	48.0	.816	39.31
Total.....	83	692	49.0	.821	40.23
Weavers, male:					
Connecticut.....	10	531	48.9	.681	33.30
Maine.....	16	540	49.9	.659	32.88
Massachusetts.....	12	1,320	48.2	.676	32.58
New Hampshire.....	5	231	49.3	.599	29.53
New Jersey.....	5	356	49.4	.688	33.99
New York.....	4	211	49.8	.636	31.67
Pennsylvania.....	16	351	50.8	.602	30.58
Rhode Island.....	12	926	48.3	.664	32.07
Vermont.....	3	175	48.0	.584	28.03
Total.....	83	4,641	48.9	.658	32.18
Weavers, female:					
Connecticut.....	10	180	49.3	.637	31.40
Maine.....	16	359	50.1	.622	31.16
Massachusetts.....	12	747	48.0	.634	30.43
New Hampshire.....	5	92	50.9	.496	25.25
New Jersey.....	5	354	48.2	.655	31.57
New York.....	4	102	49.3	.596	29.38
Pennsylvania.....	14	254	50.3	.484	24.35
Rhode Island.....	10	267	48.0	.610	29.28
Vermont.....	3	64	48.0	.562	26.98
Total.....	79	2,419	48.8	.605	29.52
Burlers, female:					
Connecticut.....	10	84	49.1	.393	19.30
Maine.....	13	128	51.2	.337	17.25
Massachusetts.....	12	559	48.0	.386	18.53
New Hampshire.....	5	193	53.4	.357	19.06
New Jersey.....	5	157	48.9	.462	22.59
New York.....	4	79	48.3	.430	20.77
Pennsylvania.....	15	191	50.7	.343	17.39
Rhode Island.....	12	252	48.0	.395	18.96
Vermont.....	3	48	48.0	.337	16.18
Total.....	79	1,691	49.3	.383	18.88
Menders, female:					
Connecticut.....	10	124	49.4	.452	22.33
Maine.....	16	187	49.1	.420	20.62
Massachusetts.....	12	772	48.0	.492	23.62
New Hampshire.....	5	71	49.9	.440	21.96
New Jersey.....	5	118	49.0	.615	30.14
New York.....	4	102	48.1	.528	25.40
Pennsylvania.....	15	200	50.5	.508	25.65
Rhode Island.....	12	443	48.0	.490	23.52
Vermont.....	3	69	48.0	.425	20.40
Total.....	82	2,086	48.5	.488	23.67

Table 4 shows for each sex and for both sexes combined the average full-time hours per week, earnings per hour, and full-time earnings per week for all wage earners covered in each State in 1926 and in 1928.

Average full-time hours per week of males in 1926 ranged by States from 48.2 to 51.8 and of females from 48 to 52.3. In 1928 the averages for males ranged from 48 to 52.2 and for females ranged from 48 to 52.5. The averages for all males and females combined, or for the industry, ranged from 48.1 to 51.8 in 1926 and from 48 to 52.4 in 1928.

Average earnings per hour of males in 1926 ranged by States from 52.2 to 56.7 cents and of females from 37.2 to 47.4 cents, and for both sexes combined from 48.2 to 52.6 cents per hour. The 1928 averages for males ranged from 50.1 to 61.9 cents, and for females from 37.2 cents to 50.9, and for both sexes combined from 44.9 to 57.5 cents per hour.

Average full-time earnings per week of males in 1926 ranged by States from \$25.93 to \$29.37 and of females from \$19.31 to \$23.19, and of both sexes from \$23.23 to \$26.62. The 1928 averages for males ranged from \$25.55 to \$31.01, for females from \$18.77 to \$24.58, and for males and females combined from \$23.21 to \$27.83 per week.

For the industry as a whole, it is seen that full-time hours per week remained unchanged at 49.3 in 1926 and 1928; that earnings per hour increased from 49.1 in 1926 to 51.4 cents in 1928; and that full-time earnings per week increased from \$24.21 in 1926 to \$25.34 in 1928. The percentage increase, 1928 over 1926, in earnings per hour and in full-time earnings per week was the same (4.7) because there was no change in average full-time hours per week.

TABLE 4.—AVERAGE HOURS AND EARNINGS, 1926 AND 1928, BY SEX AND STATE

Sex and State	Number of establishments		Number of employees		Average full-time hours per week		Average earnings per hour		Average full-time weekly earnings	
	1926	1928	1926	1928	1926	1928	1926	1928	1926	1928
Males										
Connecticut.....	10	10	1,635	1,504	49.4	49.1	\$0.557	\$0.600	\$27.52	\$29.46
Maine.....	15	16	2,309	2,173	50.4	50.6	.537	.561	27.06	28.39
Massachusetts.....	15	13	8,830	7,808	48.2	48.8	.538	.552	25.93	26.94
New Hampshire.....	5	5	1,204	1,097	50.4	51.0	.522	.501	26.31	25.55
New Jersey.....		6		2,124		48.5		.619		30.02
New York.....	5	4	1,360	1,024	49.9	50.8	.541	.549	27.00	27.89
Pennsylvania.....	40	23	2,799	1,687	51.8	52.2	.567	.594	29.37	31.01
Rhode Island.....	14	12	3,153	3,013	48.4	48.4	.550	.576	26.62	27.88
Vermont.....	8	3	862	619	50.6	48.0	.547	.547	27.68	26.26
Total.....	112	92	22,152	21,049	49.3	49.4	.545	.568	26.87	28.06
Females										
Connecticut.....	10	10	682	718	49.1	49.2	.450	.474	22.10	23.32
Maine.....	15	16	1,204	1,220	50.6	50.2	.448	.483	22.67	24.25
Massachusetts.....	15	13	6,839	6,387	48.0	48.0	.430	.450	20.64	21.60
New Hampshire.....	5	5	843	817	52.3	52.5	.422	.372	22.07	19.53
New Jersey.....		6		1,673		48.3		.509		24.58
New York.....	5	4	1,036	731	48.9	48.4	.474	.465	23.18	22.51
Pennsylvania.....	40	23	3,683	2,997	51.9	52.5	.372	.383	19.31	20.11
Rhode Island.....	14	12	3,252	2,822	48.1	48.1	.413	.423	19.87	20.35
Vermont.....	8	3	279	436	51.2	48.0	.453	.391	23.19	18.77
Total.....	112	92	17,818	17,801	49.3	49.2	.418	.438	20.61	21.55
Males and females										
Connecticut.....	10	10	2,317	2,222	49.3	49.1	.526	.562	25.93	27.59
Maine.....	15	16	3,513	3,393	50.4	50.4	.507	.534	25.55	26.91
Massachusetts.....	15	13	15,669	14,195	48.1	48.4	.496	.511	23.86	24.73
New Hampshire.....	5	5	2,047	1,914	51.2	51.7	.482	.449	24.68	23.21
New Jersey.....		6		3,797		48.4		.575		27.83
New York.....	5	4	2,396	1,755	49.5	49.8	.515	.519	25.49	25.85
Pennsylvania.....	40	23	6,482	4,684	51.8	52.4	.459	.469	23.78	24.58
Rhode Island.....	14	12	6,405	5,835	48.2	48.2	.482	.511	23.23	24.63
Vermont.....	8	3	1,141	1,055	50.8	48.0	.524	.485	26.62	23.28
Total.....	112	92	39,970	38,850	49.3	49.3	.491	.514	24.21	25.34

Wages in the French Metal Industries in 1928

A WAGE study made by the employers' association in the metal-working industries and the machine trades of the region of Paris each year shows the average wages paid in the various occupations of the industry in that section of France.³ The wages have been converted into United States currency on the basis of the exchange value of the franc in February, 1927, and in February, 1928, the months for which the wages are given.

The following table shows the average wages of metal workers in different industries in 1927 and 1928. The wages include all bonuses except family allowances.

AVERAGE HOURLY WAGES IN THE METAL INDUSTRIES IN THE REGION OF PARIS, FRANCE, IN FEBRUARY, 1927 AND 1928, BY OCCUPATION

Conversions into United States money made on basis of exchange rate of franc—3.92 cents for 1927 and 3.93 cents for 1928]

Industry and occupation	Average hourly wages			
	Time workers		Pieceworkers	
	1927	1928	1927	1928
Machine industries, general:	<i>Cents</i>	<i>Cents</i>	<i>Cents</i>	<i>Cents</i>
Fitters.....	18.5	18.9	19.9	20.2
Fitters, toolmakers.....	19.8	20.9	21.3	22.2
Blacksmiths.....	19.0	19.5	20.8	21.2
Milling machine operators.....	19.2	19.7	20.7	21.2
Pattern makers.....	22.3	22.7	24.6	25.2
Mortising and planing machine hands.....	18.7	19.6	20.5	21.4
Lathe hands.....	19.1	19.4	20.7	21.1
Automobiles:				
Fitters.....	18.7	19.2	20.0	20.4
Fitters, toolmakers.....	19.9	20.7	21.2	22.3
Coppersmiths.....	18.9	20.6	21.6	23.1
Milling machine operators.....	19.7	20.2	21.0	21.4
Milling machine hands, toolmakers.....	20.6	21.6		
Machine setters.....	21.4	22.1	22.7	23.8
Lathe hands.....	19.4	19.8	20.9	21.2
Lathe and tool hands.....	20.6	21.3		
Electrical construction:				
Fitters.....	17.8	18.0	19.0	19.3
Fitters, toolmakers.....	19.5	20.5		
Electrical fitters.....	17.6	17.7	18.9	19.4
Coil winders.....	17.3	17.6	18.7	19.2
Lathe hands.....	18.3	18.5	20.0	20.7
Lathe and tool hands.....	20.4	21.1		
Metal construction:				
Structural-iron workers.....	18.8	19.2		
Blacksmiths.....	19.4	19.9		
Locksmiths.....	18.5	18.7	19.8	20.2
Drop forging:				
Blacksmiths.....	18.7	18.9	21.8	22.9
Hammermen.....	22.5	22.9		
Swagers.....			25.6	26.0
Metal pipe manufacture:				
Draw bench workers.....	17.4	18.2		
Pipe drawers.....	16.1	16.6	19.4	20.1
Iron and steel foundries:				
Molders, hand.....	18.8	19.3	22.2	22.8
Plate molders.....	19.8			
Core makers.....	18.3	18.5	20.6	21.5
All industries:				
Laborers, male.....	12.7	13.0	13.4	14.4
Laborers, female.....	9.1	9.5	10.3	10.7
Skilled laborers, female.....	10.2	10.7	12.0	12.3

³ France. Ministère du Travail, de l'Hygiène, de l'Assistance et de la Prévoyance Sociales. Bulletin de la Statistique Générale de la France. Paris, July-September, 1928, pp. 412, 413.

Minimum Wage for Japanese Seamen

AS A result of an unusually extensive strike of seamen in Japan, which terminated in June, 1928, the first minimum wage scale for maritime workers in that country was established. The following data regarding this controversy and its outcome are taken from Industrial and Labor Information (Geneva) of August 13, 1928:

On May 9 the Seamen's Union demanded that the Japanese Shipowners' Association and the Kawasaki Steamship Co. institute a minimum wage scale. The union is well organized, with approximately 55,000 members, while the Japanese Shipowners' Association comprises 174 separate steamship concerns (excluding companies receiving Government subsidy) owning 936 vessels with a combined tonnage of 3,072,000 or almost 75 per cent of Japan's aggregate tonnage.

The Kawasaki Steamship Co. acceded to nearly all of the union's demands. The difficulty, however, of securing unanimous action on the part of so many constituent members delayed the decision of the shipowners' association, and the controversy was referred to the joint maritime board. Both sides elected conciliators and negotiations were begun on May 31. The two parties, however, would not compromise and on June 5 a strike was declared. It was reported that approximately 300 vessels were held up in various ports of the country.

This serious condition induced both sides to agree to the arbitration of the dispute by a neutral body of business men and Government officials, which resulted in the institution of the minimum wage scale given below.

MINIMUM MONTHLY WAGES OF JAPANESE SEAMEN FROM JULY 1, 1928

[Conversions into United States money made on basis of exchange rate of yen for July, 1928—45.85 cents]

Class of crew	Years of sea service	Size of vessel		
		Over 500 tons	1,500 to 3,500 tons	Over 3,500 tons
Leading firemen, boatswains.....	8	\$29. 80	\$32. 10	\$34. 39
Carpenters.....		27. 51	29. 80	32. 10
Helmsmen, oilers, cooks.....	4	22. 93	25. 22	26. 13
Sailors, firemen, cook's mates.....	1½	16. 05	17. 42	18. 34
Stewards.....	1½	16. 05	17. 42	17. 42

Among the important consequences of this Japanese maritime strike, the following are cited:

Three subcommittees have been appointed by the shipowners' association committee to study, respectively: (1) The joint maritime board and labor problems; (2) the revision of the association's present rules; and (3) the effects of the minimum wage contract.

Realizing that their organization will not be completely effective unless the workers on harbor vessels are permanently unionized, seamen have decided to begin their campaign with the organization of the more than 3,000 workers on harbor vessels in the port of Kobe in a "National Union of Workers on Vessels in Ports." There are

about 20,000 workers of this class in Japan. The creation of a national stevedores' union is also being considered.

The mercantile marine and engineer officers' association has drafted a request for substantially higher wages, which is to be presented at an opportune time to the joint maritime board.

Previously the working conditions on Government subsidized vessels were better than on unsubsidized vessels but the institution of a minimum wage on the latter has reversed the position in some respects. It is reported that the two principal subsidized companies have in mind the setting up of a minimum wage scale for their seamen.

TREND OF EMPLOYMENT

Employment in Selected Manufacturing Industries in September, 1928

EMPLOYMENT in manufacturing industries *increased 1.5 per cent* in September as compared with August, and *pay-roll totals increased 1.3 per cent*, according to returns made to the Bureau of Labor Statistics.

An upward trend of employment is customary in September owing to the autumn impetus of expanding trade, but this increase of 1.5 per cent in September, 1928, has been exceeded only twice during the years 1923 to 1927, inclusive, and then slightly. Pay-roll totals do not always increase in proportion to employment, being somewhat affected by the labor holiday.

The Bureau of Labor Statistics' weighted index of employment for September, 1928, is 87.3, as compared with 86.0 for August, 1928, 84.7 for July, 1928, and 88.0 for September, 1927; the weighted index of pay-roll totals for September, 1928, is 91.4, as compared with 90.2 for August, 1928, 87.4 for July, 1928, and 90.1 for September, 1927.

While employment in September, 1928, was 0.8 per cent below the level of employment in September, 1927, it was, nevertheless, at a higher level than at any time since October, 1927.

Pay-roll totals were 1.4 per cent greater in September, 1928, than in September, 1927, and also greater than at any time since June, 1927.

The data for this August-September, 1928, report are based on returns from 11,443 establishments in 54 of the leading manufacturing industries of the United States. These establishments in September had 3,176,563 employees, whose combined earnings in one week were \$85,358,595. These employees represent *one-half* of the employees in the *54 manufacturing industries* covered by this survey and nearly *40 per cent* of the employees in *all manufacturing industries* of the United States.

Comparison of Employment and Pay-Roll Totals in August and September, 1928

THIRTY-NINE of the 54 separate industries and 11 of the 12 groups of industries had more employees in September, 1928, than in August.

The group increases ranged from 7.2 per cent in chemicals to 0.2 per cent in leather; the stone-clay-glass group fell off 0.3 per cent. Among the separate industries, aside from such large seasonal increases in employment as 32.6 per cent in fertilizers and 18.8 per cent in confectionery, there were increases of considerable size in baking, hosiery, shirts, women's clothing, millinery, paper boxes, chemicals, hardware, machine tools, stoves, furniture, cigars, electric machinery, and rubber boots; the cotton-goods industry gained 2

per cent, iron and steel and sawmills 0.5 per cent each, and automobiles 2.9 per cent.

There were seasonal decreases in employment of 9 per cent in ice cream, 3.1 per cent in cement, and 2 per cent in brick; woollen and worsted goods fell off 2.2 per cent and the steam-fitting industry lost 4.4 per cent of its employees.

Eight of the nine geographic divisions showed gains in employment in September as compared with August, the New England States leading with an increase of 2.3 per cent while seven other divisions showed increases ranging from 0.7 per cent to 1.8 per cent each; the West North Central division fell off in employment 0.2 per cent.

TABLE 1.—COMPARISON OF EMPLOYMENT AND PAY-ROLL TOTALS IN IDENTICAL ESTABLISHMENTS DURING ONE WEEK EACH IN AUGUST AND SEPTEMBER, 1928

Industry	Estab- lish- ments	Number on pay roll		Per cent of change	Amount of pay roll		Per cent of change
		August, 1928	Septem- ber, 1928		August, 1928	Septem- ber, 1928	
Food and kindred products	1,756	219,916	226,132	(¹)	\$5,670,530	\$5,822,344	(¹)
Slaughtering and meat pack- ing.....	198	84,317	83,805	-0.6	2,151,614	2,196,569	+2.1
Confectionery.....	298	29,591	35,164	+18.8	545,086	637,394	+16.9
Ice cream.....	246	11,903	10,828	-9.0	404,978	365,331	-9.8
Flour.....	342	15,896	16,133	+1.5	430,668	437,982	+1.7
Baking.....	656	66,981	69,262	+3.4	1,798,876	1,857,848	+3.3
Sugar refining, cane.....	16	11,228	10,940	-2.6	339,308	327,220	-3.6
Textiles and their products	1,941	553,684	562,622	(¹)	10,627,316	10,909,961	(¹)
Cotton goods.....	458	196,923	200,882	+2.0	2,928,284	3,062,807	+4.6
Hosiery and knit goods.....	244	74,697	76,909	+3.0	1,372,646	1,433,849	+4.5
Silk goods.....	249	58,293	59,240	+1.6	1,245,561	1,257,355	+0.9
Woollen and worsted goods.....	186	59,154	57,867	-2.2	1,293,031	1,267,928	-1.9
Carpets and rugs.....	30	22,598	22,684	+0.4	560,694	583,303	+4.0
Dyeing and finishing textiles.....	91	27,786	28,101	+1.1	661,784	684,341	+3.4
Clothing, men's.....	295	63,450	63,318	-0.2	1,516,398	1,488,184	-1.9
Shirts and collars.....	108	19,195	20,122	+4.8	299,102	311,093	+4.0
Clothing, women's.....	206	21,525	22,793	+5.9	513,737	560,785	+9.2
Millinery and lace goods.....	74	10,063	10,706	+6.4	236,079	260,316	+10.3
Iron and steel and their prod- ucts	1,813	664,064	671,125	(¹)	19,961,711	19,961,470	(¹)
Iron and steel.....	201	265,848	267,160	+0.5	8,296,664	8,180,497	-1.4
Cast-iron pipe.....	38	12,244	12,312	+0.6	273,446	271,753	-0.6
Structural ironwork.....	160	26,132	25,757	-1.4	786,328	773,512	-1.6
Foundry and machine shop products.....	981	245,252	247,851	+1.1	7,341,262	7,346,854	+0.1
Hardware.....	68	30,478	31,222	+2.4	749,338	771,229	+2.9
Machine tools.....	145	29,570	33,099	+11.9	958,971	1,077,449	+12.4
Steam fittings and steam and hot-water heating appara- tus.....	108	35,818	34,243	-4.4	1,059,258	993,543	-6.2
Stoves.....	112	18,722	19,481	+4.1	496,444	546,633	+10.1
Lumber and its products	1,155	218,153	220,624	(¹)	4,843,062	4,949,896	(¹)
Lumber, sawmills.....	469	125,449	126,136	+0.5	2,591,233	2,621,294	+1.2
Lumber, millwork.....	272	32,672	32,030	-2.0	786,358	766,567	-2.5
Furniture.....	414	60,032	62,458	+4.0	1,465,471	1,562,035	+6.6
Leather and its products	348	118,894	119,123	(¹)	2,830,250	2,805,622	(¹)
Leather.....	129	26,792	26,740	-0.2	657,473	657,447	-0.0
Boots and shoes.....	219	92,102	92,383	+0.3	2,172,777	2,148,175	-1.1
Paper and printing	1,088	193,178	193,922	(¹)	6,295,219	6,396,433	(¹)
Paper and pulp.....	212	57,195	57,379	+0.3	1,522,017	1,519,987	-0.1
Paper boxes.....	187	18,787	19,581	+4.2	422,898	446,178	+5.5
Printing, book and job.....	309	52,815	52,026	-1.5	1,831,918	1,856,901	+1.4
Printing, newspapers.....	380	64,381	64,936	+0.9	2,518,386	2,573,367	+2.2

¹ The per cent of change has not been computed for the reason that the figures in the preceding columns are unweighted and refer only to the establishments reporting; for the weighted per cent of change, wherein proper allowance is made for the relative importance of the several industries, so that the figures may represent all establishments of the country in the industries here represented, see Table 2.

² Less than one-tenth of 1 per cent.

TABLE 1.—COMPARISON OF EMPLOYMENT AND PAY-ROLL TOTALS IN IDENTICAL ESTABLISHMENTS DURING ONE WEEK EACH IN AUGUST AND SEPTEMBER, 1928—Continued

Industry	Estab-lish-ments	Number on pay roll		Per cent of change	Amount of pay roll		Per cent of change
		August, 1928	September, 1928		August, 1928	September, 1928	
Chemicals and allied products	335	80,961	85,696	(1)	\$2,397,644	\$2,465,164	(1)
Chemicals	129	31,217	32,555	+4.3	860,762	874,382	+1.6
Fertilizers	152	7,979	10,577	+32.6	166,602	213,532	+28.2
Petroleum refining	54	41,765	42,564	+1.9	1,370,280	1,377,250	+0.5
Stone, clay, and glass products	963	130,883	130,099	(1)	3,394,839	3,314,539	(1)
Cement	108	27,425	26,569	-3.1	815,503	779,665	-4.4
Brick, tile, and terra cotta	608	42,493	41,651	-2.0	1,064,593	1,030,799	-3.2
Pottery	121	20,758	20,910	+0.7	505,979	498,560	-1.5
Glass	126	40,207	40,969	+1.9	1,008,764	1,005,515	-0.3
Metal products, other than iron and steel	220	51,807	52,332	(1)	1,388,955	1,403,819	(1)
Stamped and enameled ware	68	19,120	19,189	+0.4	465,455	457,686	-1.7
Brass, bronze, and copper products	152	32,687	33,143	+1.4	923,500	946,133	+2.5
Tobacco products	258	64,576	65,894	(1)	1,061,463	1,110,259	(1)
Chewing and smoking tobacco and snuff	29	8,198	8,274	+0.9	130,075	132,714	+2.0
Cigars and cigarettes	229	56,378	57,620	+2.2	931,388	977,545	+5.0
Vehicles for land transportation	1,173	578,164	589,680	(1)	18,579,394	18,563,490	(1)
Automobiles	203	417,395	429,595	+2.9	13,903,959	13,973,356	+0.5
Carriages and wagons	54	1,570	1,688	+7.5	35,646	38,911	+9.2
Car building and repairing, electric-railroad	349	19,536	19,421	-0.6	594,978	574,707	-3.4
Car building and repairing, steam-railroad	567	139,663	138,976	-0.5	4,044,811	3,976,516	-1.7
Miscellaneous industries	393	253,440	259,314	(1)	7,469,691	7,655,598	(1)
Agricultural implements	83	25,658	25,472	-0.7	775,829	738,422	-4.8
Electrical machinery, apparatus, and supplies	170	121,788	126,418	+3.8	3,581,834	3,655,642	+2.1
Pianos and organs	43	6,869	6,960	+1.3	198,994	210,730	+5.9
Rubber boots and shoes	12	17,125	18,153	+6.0	395,888	441,922	+11.6
Automobile tires	47	60,188	60,447	+0.4	1,898,799	1,968,914	+3.7
Shipbuilding	38	21,812	21,864	+0.2	619,347	639,968	+3.3
All industries	11,443	3,127,720	3,176,563	(1)	84,520,074	85,358,595	(1)

RECAPITULATION BY GEOGRAPHIC DIVISIONS

GEOGRAPHIC DIVISION ¹							
New England	1,360	365,298	373,652	+2.3	\$8,841,403	\$9,321,245	+5.4
Middle Atlantic	2,680	815,867	829,666	+1.7	23,167,221	23,517,896	+1.5
East North Central	3,047	1,119,090	1,136,711	+1.6	34,009,245	33,977,401	-0.1
West North Central	1,066	162,909	162,537	-0.2	4,184,781	4,128,752	-1.3
South Atlantic	1,364	308,980	313,733	+1.5	5,937,779	6,024,791	+1.5
East South Central	562	114,803	115,968	+1.0	2,207,910	2,192,313	-0.7
West South Central	471	85,157	86,226	+1.3	1,869,635	1,876,838	+0.4
Mountain	207	31,260	31,480	+0.7	855,367	868,529	+1.5
Pacific	686	124,356	126,590	+1.8	3,446,733	3,450,830	+0.1
All divisions	11,443	3,127,720	3,176,563	(1)	84,520,074	85,358,595	(1)

¹ The per cent of change has not been computed for the reason that the figures in the preceding columns are unweighted and refer only to the establishments reporting; for the weighted per cent of change, wherein proper allowance is made for the relative importance of the several industries, so that the figures may represent all establishments of the country in the industries here represented, see Table 2.

² See footnotes 1 to 9, p. 156.

TABLE 2.—PER CENTS OF CHANGE, AUGUST TO SEPTEMBER, 1928—12 GROUPS OF INDUSTRIES AND TOTAL OF ALL INDUSTRIES

[Computed from the index numbers of each group, which are obtained by weighting the index numbers of the several industries of the group, by the number of employees, or wages paid, in the industries]

Group	Per cent of change, August to September, 1928		Group	Per cent of change, August to September, 1928	
	Number on pay roll	Amount of pay roll		Number on pay roll	Amount of pay roll
Food and kindred products.....	+3.2	+2.9	Metal products, other than iron and steel.....	+1.1	+1.6
Textiles and their products.....	+1.9	+3.2	Tobacco products.....	+2.2	+4.6
Iron and steel and their prod- ucts.....	+1.2	+0.1	Vehicles for land transporta- tion.....	+1.3	-0.4
Lumber and its products.....	+0.9	+1.8	Miscellaneous industries.....	+1.5	+2.6
Leather and its products.....	+0.2	-0.8			
Paper and printing.....	+0.4	+1.6			
Chemicals and allied products.....	+7.2	+4.0			
Stone, clay, and glass prod- ucts.....	-0.3	-2.0	All industries.....	+1.5	+1.1

Comparison of Employment and Pay-Roll Totals in September, 1928, and September, 1927

THE level of employment in manufacturing industries in September, 1928, was 0.8 per cent lower than in September, 1927, while pay-roll totals were 1.4 per cent higher.

There was a gain in employment of 13.3 per cent in the vehicle group; the nonferrous-metal group gained 3.3 per cent; and the *iron and steel group* gained 2 per cent. The 9 remaining groups reported decreased employment over this 12-month period, the decreases ranging from 7.2 per cent in the textile group to 0.6 per cent in the chemical group.

The outstanding increases in separate industries in this comparison were 39 per cent in automobiles, 21.7 per cent in agricultural implements, 18.1 per cent in machine tools, and 13 per cent in automobile tires. The *iron and steel industry* gained 0.7 per cent, and foundry and machine-shop products gained 3.4 per cent. Women's clothing was the only industry in the textile group to show improved employment, the increase having been 2.2 per cent.

The most significant decreases in separate industries were 13.7 per cent in steam fittings, 14.2 per cent in cotton goods, 14.9 per cent in pianos, and 16.3 per cent in shipbuilding.

The East North Central States showed a gain in employment of 13.8 per cent in September, 1928, as compared with September, 1927, and the Pacific States a gain of 0.8 per cent, while the remaining 7 geographic divisions showed decreased employment ranging from 7.9 per cent in the New England division to 0.5 in the Mountain division.

TABLE 3.—COMPARISON OF EMPLOYMENT AND PAY-ROLL TOTALS, SEPTEMBER 1928, WITH SEPTEMBER, 1927

[The per cents of change for each of the 12 groups of industries and for the total of all industries are weighted in the same manner as are the per cents of change in Table 2]

Industry	Per cent of change September, 1928, compared with September, 1927		Industry	Per cent of change September, 1928, compared with September, 1927	
	Number on pay roll	Amount of pay roll		Number on pay roll	Amount of pay roll
Food and kindred products	-2.5	-1.0	Chemicals and allied products	-0.6	-0.3
Slaughtering and meat packing	-1.9	-0.4	Chemicals	+0.1	+0.1
Confectionery	-8.6	-9.2	Fertilizers	+3.2	-1.0
Ice cream	+1.3	+1.0	Petroleum refining	-3.5	-0.3
Flour	-1.0	+3.4			
Baking	-0.5	-0.4	Stone, clay, and glass products	-2.0	-1.7
Sugar refining, cane	-8.1	-3.2	Cement	-9.5	-9.4
Textiles and their products	-7.2	-9.6	Brick, tile, and terra cotta	-8.2	-9.1
Cotton goods	-14.2	-20.5	Pottery	+5.3	+1.0
Hosiery and knit goods	-6.4	-4.8	Glass	+4.3	+7.2
Silk goods	-3.0	+1.1			
Woolen and worsted goods	-7.2	-10.4	Metal products, other than iron and steel	+3.3	+12.4
Carpets and rugs	-3.7	-6.7	Stamped and enameled ware	+2.1	+3.0
Dyeing and finishing textiles	-3.8	-5.7	Brass, bronze, and copper products	+3.7	+15.4
Clothing, men's	-6.4	-10.1			
Shirts and collars	-4.6	-8.8	Tobacco products	-3.5	-5.8
Clothing, women's	+2.2	-2.6	Chewing and smoking tobacco and snuff	-3.7	+0.4
Millinery and lace goods	-3.4	-2.8	Cigars and cigarettes	-3.5	-6.6
Iron and steel and their products	+2.0	+6.6	Vehicles for land transportation	+13.3	+15.3
Iron and steel	+0.7	+6.0	Automobiles	+39.0	+44.3
Cast-iron pipe	-6.0	-14.4	Carriages and wagons	+7.4	+8.7
Structural ironwork	+1.5	+6.7	Car building and repairing, electric-railroad	-9.4	-9.4
Foundry and machine-shop products	+3.4	+7.8	Car building and repairing, steam-railroad	-6.4	-6.9
Hardware	-0.9	+1.1			
Machine tools	+18.1	+26.6	Miscellaneous industries	-2.8	+0.3
Steam fittings and steam apparatus	-13.7	-13.1	Agricultural implements	+21.7	+29.0
Stoves	-1.6	-3.1	Electrical machinery, apparatus, and supplies	+3.0	+7.4
Lumber and its products	-3.9	-4.4	Pianos and organs	-14.9	-16.3
Lumber, sawmills	-4.3	-5.1	Rubber boots and shoes	-4.7	-8.0
Lumber, millwork	-2.1	-2.5	Automobile tires	+13.0	+19.9
Furniture	-3.5	-3.2	Shipbuilding	-16.3	-12.5
Leather and its products	-5.9	-7.7	All industries	-0.8	+1.4
Leather	-2.6	-2.3			
Boots and shoes	-7.0	-9.8			
Paper and printing	-1.3	+0.7			
Paper and pulp	-3.0	-0.5			
Paper boxes	-4.1	-0.4			
Printing, book and job	-2.2	+0.6			
Printing, newspapers	+2.4	+2.2			

RECAPITULATION BY GEOGRAPHIC DIVISIONS

GEOGRAPHIC DIVISION			GEOGRAPHIC DIVISION		
New England	-7.9	-6.4	West South Central	-3.3	-2.6
Middle Atlantic	-4.4	-2.7	Mountain	-0.5	+2.2
East North Central	+13.8	+19.6	Pacific	+0.8	+1.0
West North Central	-1.8	+0.2			
South Atlantic	-3.5	-2.8	All divisions	-0.8	+1.4
East South Central	-2.0	-3.8			

Per Capita Earnings

PER CAPITA earnings in September, 1928, for employees in the combined 54 industries surveyed were 0.2 per cent lower than in August, 1928, and 2.2 per cent higher than in September, 1927.

Twenty-six of the 54 separate industries showed increased per capita earnings in September, 1928, as compared with August, 1928, while 30 industries showed increased per capita earnings in September, 1928, as compared with September, 1927.

TABLE 4.—COMPARISON OF PER CAPITA EARNINGS, SEPTEMBER, 1928, WITH AUGUST, 1928, AND SEPTEMBER, 1927

Industry	Per cent of change September, 1928, compared with—		Industry	Per cent of change September, 1928, compared with—	
	August, 1928	September, 1927		August, 1928	September, 1927
Stoves.....	+5.8	-1.4	Silk goods.....	-0.7	+4.1
Rubber boots and shoes.....	+5.3	-3.6	Ice cream.....	-0.8	-0.2
Pianos and organs.....	+4.5	-2.0	Shirts and collars.....	-0.8	-4.2
Carpets and rugs.....	+3.6	-3.2	Foundry and machine-shop products.....	-1.0	+4.2
Millinery and lace goods.....	+3.6	+0.6	Sugar refining, cane.....	-1.0	+5.1
Automobile tires.....	+3.2	+5.8	Brick, tile, and terra cotta.....	-1.2	-1.4
Clothing, women's.....	+3.1	-5.1	Car building and repairing, steam-railroad.....	-1.2	-0.4
Shipbuilding.....	+3.1	+4.6	Cast-iron pipe.....	-1.2	-9.1
Printing, book and job.....	+2.9	+2.9	Cement.....	-1.3	+0.4
Cigars and cigarettes.....	+2.7	-3.3	Boots and shoes.....	-1.4	-3.3
Slaughtering and meat packing.....	+2.7	+1.5	Petroleum refining.....	-1.4	+3.1
Cotton goods.....	+2.6	-7.4	Confectionery.....	-1.6	-0.6
Furniture.....	+2.5	+0.5	Electrical machinery, apparatus, and supplies.....	-1.6	+4.0
Dyeing and finishing textiles.....	+2.2	-2.1	Clothing, men's.....	-1.7	-4.4
Carriages and wagons.....	+1.5	+1.1	Iron and steel.....	-1.9	+5.5
Hosiery and knit goods.....	+1.4	+1.0	Steam fittings, and steam and hot-water heating apparatus.....	-1.9	+0.7
Printing, newspapers.....	+1.3	-0.2	Stamped and enameled ware.....	-2.0	+0.9
Paper boxes.....	+1.2	+3.7	Glass.....	-2.2	+2.9
Brass, bronze, and copper products.....	+1.1	+11.5	Pottery.....	-2.2	-4.0
Chewing and smoking tobacco and snuff.....	+1.1	+4.5	Automobiles.....	-2.3	+4.1
Lumber, sawmills.....	+0.6	-1.1	Chemicals.....	-2.6	-0.2
Hardware.....	+0.4	+1.8	Car building and repairing, electric-railroad.....	-2.9	-0.1
Machine tools.....	+0.4	+7.0	Fertilizers.....	-3.3	-4.0
Flour.....	+0.2	+4.4	Agricultural implements.....	-4.1	+6.0
Leather.....	+0.2	+0.3			
Woolen and worsted goods.....	+0.2	-3.5			
Baking.....	-0.1	+0.1			
Structural ironwork.....	-0.2	+5.1			
Paper and pulp.....	-0.5	+2.3			
Lumber, millwork.....	-0.6	-0.5			
			All industries.....	-0.2	+2.2

Wage Changes

TWENTY-NINE establishments in 10 industries reported wage-rate increases made during the month ending September 15, 1928. These increases averaged 6.1 per cent and affected 7,167 employees, or 13 per cent of all employees in the establishments concerned.

Thirteen establishments in 7 industries reported wage-rate decreases made during the same period. These decreases averaged 8.5 per cent and affected 2,623 employees, or 61 per cent of all employees in the establishments concerned.

TABLE 5.—WAGE ADJUSTMENTS OCCURRING BETWEEN AUGUST 15 AND SEPTEMBER 15, 1928

Industry	Establishments		Per cent of increase or decrease in wage rate		Employees affected		
	Total number reporting	Number reporting increase or decrease in wage rates	Range	Average	Total number	Per cent of employees	
						In establishments reporting increase or decrease in wage rates	In all establishments reporting
			Increases				
Hosiery and knit goods.....	244	1	7.0	7.0	100	80	(1)
Foundry and machine-shop products.....	981	5	3.8-10.0	4.8	56	7	(1)
Lumber, sawmills.....	469	2	2.5- 5.0	4.5	25	30	(1)
Lumber, millwork.....	272	2	3.0-10.0	5.2	22	4	(1)
Furniture.....	414	7	1.0-18.0	10.8	92	6	(1)
Printing, newspapers.....	380	5	1.0-12.0	3.1	381	35	1
Chemicals.....	129	3	5.0-10.0	8.8	159	8	(1)
Fertilizers.....	152	2	12.5-20.0	17.5	33	31	(1)
Glass.....	126	1	6.0	6.0	30	4	(1)
Brass, bronze, and copper products.....	152	1	4.0	4.0	5	33	(1)
			Decreases				
Cotton goods.....	458	2	10.0	10.0	742	91	(1)
Silk goods.....	249	5	2.0-10.0	6.6	236	36	(1)
Foundry and machine-shop products.....	981	1	5.0-10.0	7.5	207	90	(1)
Stoves.....	112	1	6.5	6.5	18	28	(1)
Lumber, sawmills.....	469	1	10.0	10.0	201	100	(1)
Brick, tile, and terra cotta.....	608	2	5.0-10.0	8.4	86	100	(1)
Automobiles.....	203	1	2.0	2.0	100	18	(1)

¹ Less than one-half of 1 per cent.

Indexes of Employment and Pay-roll Totals in Manufacturing Industries

INDEX numbers for September, August, and July, 1928, and for September, 1927, showing relatively the variation in number of persons employed and in pay-roll totals, in each of the 54 industries surveyed by the Bureau of Labor Statistics, together with general indexes for the combined 12 groups of industries, appear in Table 6.

The general index of employment for September, 1928, is 87.3, this number being 1.5 per cent higher than the index for August, 1928, 3.1 per cent higher than the index for July, 1928, and 0.8 per cent lower than the index for September, 1927. The general index for pay-roll totals in September, 1928, is 91.4, this number being 1.3 per cent higher than the index for August, 1928, 4.6 per cent higher than the index for July, 1928, and 1.4 per cent higher than the index for September, 1927.

TABLE 6.—INDEXES OF EMPLOYMENT AND PAY-ROLL TOTALS IN MANUFACTURING INDUSTRIES—SEPTEMBER, 1927, AND JULY, AUGUST, AND SEPTEMBER, 1928

[Monthly average, 1923 = 100]

Industry	Employment				Pay-roll totals			
	1927	1928			1927	1928		
	Sep-tember	July	August	Sep-tember	Sep-tember	July	August	Sep-tember
General index	88.0	84.7	86.0	87.3	90.1	87.4	90.2	91.4
Food and kindred products	92.1	87.4	87.0	89.8	95.9	93.7	92.2	94.9
Slaughtering and meat packing.....	80.1	80.9	79.1	78.6	83.8	85.7	81.8	83.5
Confectionery.....	93.1	69.1	71.6	85.1	101.1	74.7	78.5	91.8
Ice cream.....	95.7	108.6	106.5	96.9	104.4	121.3	116.8	105.4
Flour.....	90.9	85.4	88.7	90.0	92.5	90.7	94.0	95.6
Baking.....	104.7	102.1	100.8	104.2	110.1	107.8	106.2	109.7
Sugar refining, cane.....	95.1	88.9	89.7	87.4	95.2	94.5	95.6	92.2
Textiles and their products	86.9	78.3	79.1	80.6	88.6	75.1	77.6	80.1
Cotton goods.....	87.5	74.7	73.6	75.1	88.1	68.7	67.0	70.0
Hosiery and knit goods.....	96.5	87.0	87.9	90.6	108.3	93.3	98.6	103.1
Silk goods.....	98.1	92.9	93.7	95.2	104.5	99.5	104.7	105.6
Woolen and worsted goods.....	78.9	73.1	74.8	73.2	78.6	69.8	71.8	70.4
Carpets and rugs.....	94.2	89.6	90.3	90.7	90.8	77.8	81.4	84.7
Dyeing and finishing textiles.....	98.3	92.8	93.5	94.6	103.3	91.7	94.2	97.4
Clothing, men's.....	83.9	76.3	78.7	78.5	78.6	69.5	72.1	70.7
Shirts and collars.....	79.0	73.1	72.0	75.4	80.4	68.1	70.5	73.3
Clothing, women's.....	80.8	75.6	78.0	82.6	87.3	72.3	77.8	85.0
Millinery and lace goods.....	70.0	60.0	63.5	67.6	75.2	58.3	66.3	73.1
Iron and steel and their products	84.0	83.7	84.7	85.7	84.7	86.6	90.2	90.3
Iron and steel.....	88.7	87.7	88.8	89.3	88.2	88.9	94.8	93.5
Cast-iron pipe.....	91.5	85.6	85.5	86.0	92.5	81.9	79.7	79.2
Structural ironwork.....	96.0	94.9	98.8	97.4	100.7	103.5	109.2	107.4
Foundry and machine-shop products.....	79.0	80.4	80.8	81.7	78.5	82.9	84.5	84.6
Hardware.....	80.3	74.8	77.7	79.6	85.5	80.3	84.0	86.4
Machine-tools.....	92.1	102.8	97.2	108.8	101.3	117.1	114.0	128.2
Steam fittings and steam and hot-water heating apparatus.....	93.0	78.1	84.0	80.3	96.7	82.0	89.6	84.0
Stoves.....	80.6	70.4	76.2	79.3	80.9	65.6	71.2	78.4
Lumber and its products	85.1	79.3	81.1	81.8	93.7	85.4	88.0	89.6
Lumber, sawmills.....	81.2	75.8	77.4	77.7	90.3	83.2	84.7	85.7
Lumber, millwork.....	87.7	86.6	87.6	85.9	93.3	91.8	93.4	91.0
Furniture.....	97.1	87.0	90.1	93.7	105.7	88.6	96.0	102.3
Leather and its products	91.3	84.1	85.7	85.9	91.0	80.1	84.7	84.0
Leather.....	89.2	86.7	87.1	86.9	88.8	86.5	86.8	86.8
Boots and shoes.....	92.0	83.3	85.3	85.6	91.9	77.5	83.8	82.9
Paper and printing	103.4	101.5	101.7	102.1	111.7	110.4	110.7	112.5
Paper and pulp.....	93.3	89.4	90.2	90.5	96.7	93.4	96.3	96.2
Paper boxes.....	99.6	91.2	91.7	95.5	110.8	102.9	104.6	110.4
Printing, book and job.....	104.0	102.9	103.3	101.7	114.9	114.8	114.0	115.6
Printing, newspapers.....	114.0	116.3	115.7	116.7	122.9	124.4	122.9	125.6
Chemicals and allied products	93.8	85.7	86.9	93.2	98.5	93.2	94.5	98.3
Chemicals.....	95.3	91.6	91.5	95.4	104.6	102.4	103.0	104.7
Fertilizers.....	95.2	68.7	74.1	98.2	110.7	81.3	85.5	109.6
Petroleum.....	91.1	85.2	86.3	87.9	88.5	86.5	87.7	88.2
Stone, clay, and glass products	95.0	90.3	93.4	93.1	99.4	93.4	99.7	97.7
Cement.....	92.4	84.9	86.2	83.6	97.5	91.6	92.4	88.3
Brick, tile, and terra cotta.....	97.8	91.5	91.7	89.8	100.6	92.6	94.5	91.4
Pottery.....	96.7	93.1	101.1	101.8	104.4	89.2	107.0	105.4
Glass.....	92.5	90.0	94.7	96.5	97.3	96.3	104.6	104.3
Metal products, other than iron and steel	88.9	89.4	90.8	91.8	86.0	88.9	95.2	96.7
Stamped and enameled ware.....	82.9	82.9	84.3	84.6	78.8	75.8	82.6	81.2
Brass, bronze, and copper products.....	91.6	92.4	93.7	95.0	88.7	93.7	99.9	102.4
Tobacco products	87.8	77.2	82.9	84.7	91.4	78.7	82.3	86.1
Chewing and smoking tobacco and snuff.....	91.3	82.3	87.1	87.9	93.1	86.9	91.7	93.5
Cigars and cigarettes.....	87.4	76.5	82.4	84.3	91.2	77.7	81.2	85.2

TABLE 6.—INDEXES OF EMPLOYMENT AND PAY-ROLL TOTALS IN MANUFACTURING INDUSTRIES—SEPTEMBER, 1927, AND JULY, AUGUST, AND SEPTEMBER, 1928—Continued

Industry	Employment				Pay-roll totals			
	1927	1928			1927	1928		
	Sep-tember	July	August	Sep-tember	Sep-tember	July	August	Sep-tember
Vehicles for land transportation	81.7	88.5	91.4	92.6	81.6	89.1	94.5	94.1
Automobiles.....	96.2	122.3	130.0	133.7	94.5	121.8	135.7	136.4
Carriages and wagons.....	76.2	68.8	76.1	81.8	81.2	76.1	80.8	88.3
Car building and repairing, elec- tric-railroad.....	90.8	83.5	82.8	82.3	91.5	86.0	85.8	82.9
Car building, and repairing steam-railroad.....	72.0	67.9	67.8	67.4	72.8	68.6	69.0	67.8
Miscellaneous industries	91.4	86.9	87.5	88.8	93.2	90.9	91.1	93.5
Agricultural implements.....	84.0	103.5	102.9	102.2	90.7	120.3	122.9	117.0
Electrical machinery, apparatus, and supplies.....	93.9	89.5	93.2	96.7	94.3	95.2	99.2	101.3
Pianos and organs.....	85.5	64.6	71.9	72.8	96.0	67.2	75.9	80.4
Rubber boots and shoes.....	89.4	83.8	80.4	85.2	102.3	87.6	84.3	94.1
Automobile tires.....	106.7	117.4	120.1	120.6	109.7	121.8	126.8	131.5
Shipbuilding.....	86.3	73.9	72.0	72.2	87.5	77.7	74.2	76.6

Table 7 shows the general index of employment in manufacturing industries and the general index of pay-roll totals, by months, from January, 1923, to September, 1928.

Following Table 7 is a chart which represents the 54 industries combined and shows, by months, the course of pay-roll totals as well as the course of employment. It includes the years 1924, 1925, and 1926, as well as 1927, and January, February, March, April, May, June, July, August, and September, 1928.

TABLE 7.—GENERAL INDEXES OF EMPLOYMENT AND PAY-ROLL TOTALS IN MANUFACTURING INDUSTRIES, JANUARY, 1923, TO SEPTEMBER, 1928

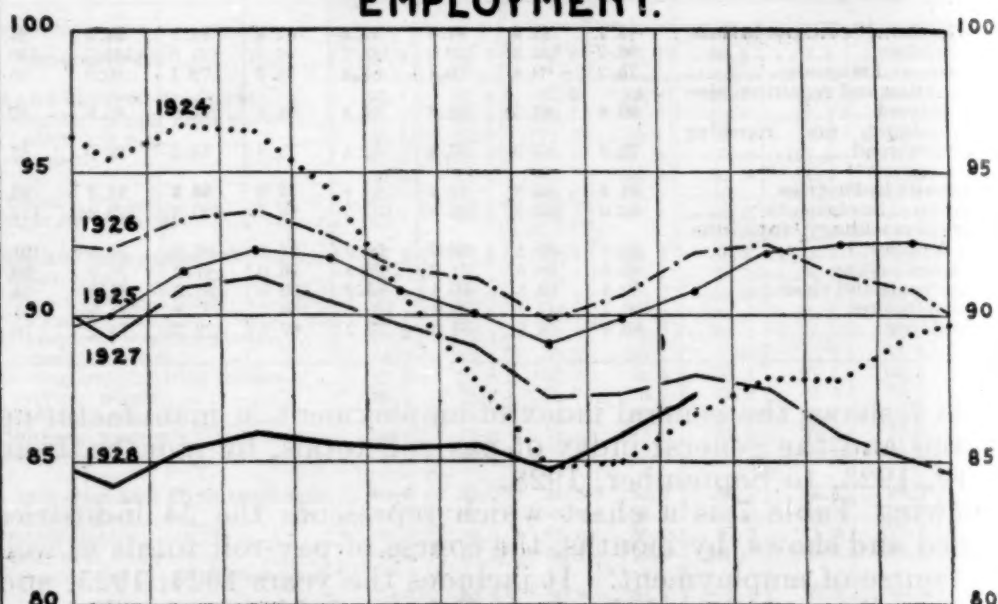
[Monthly average, 1923=100]

Month	Employment						Pay-roll totals					
	1923	1924	1925	1926	1927	1928	1923	1924	1925	1926	1927	1928
January.....	98.0	95.4	90.0	92.3	89.4	84.2	91.8	94.5	90.0	93.9	90.9	85.8
February.....	99.6	96.6	91.6	93.3	91.0	85.5	95.2	99.4	95.1	97.9	96.4	90.0
March.....	101.8	96.4	92.3	93.7	91.4	86.1	100.3	99.0	96.6	99.1	97.7	91.2
April.....	101.8	94.5	92.1	92.8	90.6	85.7	101.3	96.9	94.2	97.2	96.6	89.9
May.....	101.8	90.8	90.9	91.7	89.7	85.5	104.8	92.4	94.4	95.6	95.6	90.1
June.....	101.9	87.9	90.1	91.3	89.1	85.6	104.7	87.0	91.7	95.5	93.3	90.2
July.....	100.4	84.8	89.3	89.8	87.3	84.7	99.9	80.8	89.6	91.2	89.1	87.4
August.....	99.7	85.0	89.9	90.7	87.4	86.0	99.3	83.5	91.4	94.6	91.0	90.2
September.....	99.8	86.7	90.9	92.2	88.0	87.3	100.0	86.0	90.4	95.1	90.1	91.4
October.....	99.3	87.9	92.3	92.5	87.6	-----	102.3	88.5	96.2	98.6	91.2	-----
November.....	98.7	87.8	92.5	91.4	85.9	-----	101.0	87.6	96.2	95.4	87.8	-----
December.....	96.9	89.4	92.6	90.9	85.1	-----	98.9	91.7	97.3	95.6	89.3	-----
Average	100.0	96.3	91.2	91.9	88.5	185.6	100.0	90.6	93.6	95.8	92.4	189.6

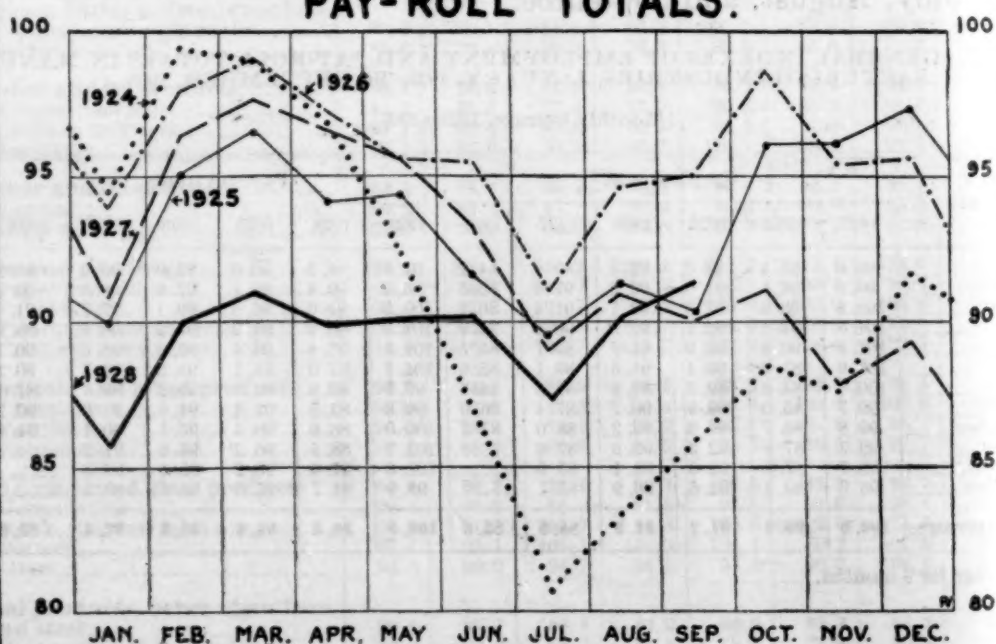
¹ Average for 9 months.

MANUFACTURING INDUSTRIES.
MONTHLY INDEXES, 1924-1928.
MONTHLY AVERAGE 1923 = 100.

EMPLOYMENT.



PAY-ROLL TOTALS.



Proportion of Time Worked and Force Employed in Selected Manufacturing Industries in September, 1928

REPORTS as to time worked and force employed in September were made by 9,418 establishments. Employees in 81 per cent of these establishments were working full time and employees in 18 per cent were working part time, while less than one-half of 1 per cent were idle; 34 per cent of the establishments had a full normal force of employees and 65 per cent were operating with reduced forces.

The establishments in operation had an average of 90 per cent of a normal force of employees, who were working an average of 97 per cent of full time. These percentages show an increase of 3 per cent in average force employed as compared with the August report, with no change in operating time.

TABLE 8.—ESTABLISHMENTS IN WHICH EMPLOYEES WORKED FULL AND PART TIME AND WHICH EMPLOYED FULL AND PART WORKING FORCE IN SEPTEMBER, 1928

Industry	Establishments reporting		Operating establishments only					
			Per cent of establishments in which employees worked—		Average per cent of full time worked by employees in establishments operating	Per cent of establishments operating with—		Average per cent of full normal force employed in establishments operating
			Full time	Part time		Full normal force	Part normal force	
Food and kindred products	1,463	(1)	91	9	99	39	61	89
Slaughtering and meat packing.....	151	1	88	11	99	46	54	88
Confectionery.....	254	(1)	79	20	97	22	78	81
Ice cream.....	199		96	4	100	16	84	79
Flour.....	268		87	13	98	53	48	91
Baking.....	580		96	4	99	48	52	96
Sugar refining, cane.....	11		91	9	98		100	82
Textiles and their products	1,563	1	75	24	96	35	65	86
Cotton goods.....	403	2	72	26	94	33	65	85
Hosiery and knit goods.....	172	1	73	26	95	40	59	91
Silk goods.....	171		91	9	99	35	65	91
Woolen and worsted goods.....	170	1	72	26	96	31	68	80
Carpets and rugs.....	25		72	28	96	40	60	91
Dyeing and finishing.....	82		46	54	91	26	74	85
Clothing, men's.....	215	(1)	77	22	97	42	57	87
Shirts and collars.....	77		75	25	96	42	58	87
Clothing, women's.....	138	1	82	17	98	29	70	88
Millinery and lace goods.....	50		72	28	96	20	80	84
Iron and steel and their products	1,603	(1)	72	28	96	30	70	87
Iron and steel.....	164	2	70	28	94	29	69	86
Cast-iron pipe.....	34		59	41	88	26	74	79
Structural ironwork.....	142		91	9	99	35	65	91
Foundry and machine-shop products.....	885		69	31	96	27	73	86
Hardware.....	47		53	47	93	17	83	84
Machine tools.....	134		86	14	100	46	54	101
Steam fittings and steam and hot water heating apparatus.....	99		77	23	97	30	70	82
Stoves.....	98		62	38	91	42	58	91
Lumber and its products	988	1	81	18	98	31	69	87
Lumber, sawmills.....	403	1	84	15	98	36	63	87
Lumber, millwork.....	220	1	79	20	98	20	79	81
Furniture.....	365		79	21	98	31	69	90
Leather and its products	310	(1)	85	14	98	36	63	86
Leather.....	119		85	15	98	28	72	83
Boots and shoes.....	191	1	86	14	97	42	58	90

¹ Less than one-half of 1 per cent.

TABLE 8.—ESTABLISHMENTS IN WHICH EMPLOYEES WORKED FULL AND PART TIME AND WHICH EMPLOYED FULL AND PART WORKING FORCE IN SEPTEMBER, 1928—Continued

Industry	Establishments reporting		Operating establishments only					
			Per cent of establishments in which employees worked—		Average per cent of full time worked by employees in establishments operating	Per cent of establishments operating with—		Average per cent of full normal force employed in establishments operating
			Full time	Part time		Full normal force	Part normal force	
Paper and printing	901	(1)	90	9	99	49	51	95
Paper and pulp.....	166	1	88	11	98	32	67	93
Paper boxes.....	155	-----	77	23	97	28	72	89
Printing, book and job.....	264	-----	89	11	98	42	58	94
Printing, newspapers.....	316	-----	100	-----	100	73	27	101
Chemicals and allied products	273	-----	84	16	98	23	77	78
Chemicals.....	99	-----	83	17	98	40	60	94
Fertilizers.....	142	-----	81	19	98	9	91	55
Petroleum refining.....	32	-----	100	-----	100	31	69	78
Stone, clay, and glass products	611	3	82	15	97	30	67	83
Cement.....	89	-----	94	6	99	29	71	84
Brick, tile, and terra cotta.....	329	5	80	15	97	24	71	83
Pottery.....	105	1	77	22	95	46	53	93
Glass.....	88	-----	83	17	99	34	66	92
Metal products, other than iron and steel	178	-----	75	25	97	33	67	89
Stamped and enameled ware.....	50	-----	74	26	98	42	58	86
Brass, bronze, and copper products.....	128	-----	75	25	97	30	70	91
Tobacco products	214	1	75	24	96	37	63	96
Chewing and smoking tobacco and snuff.....	23	-----	78	22	97	22	78	85
Cigars and cigarettes.....	191	1	74	25	96	39	60	98
Vehicles for land transportation	1,058	-----	84	16	98	29	71	101
Automobiles.....	184	-----	85	15	98	58	42	114
Carriages and wagons.....	52	-----	73	27	96	19	81	84
Car building and repairing, electric-railroad.....	289	-----	93	7	100	28	72	85
Car building and repairing, steam-railroad.....	533	-----	79	21	97	21	79	79
Miscellaneous industries	316	-----	80	20	98	32	68	89
Agricultural implements.....	70	-----	71	29	96	31	69	91
Electrical machinery, apparatus, and supplies.....	127	-----	85	15	99	31	69	91
Pianos and organs.....	35	-----	57	43	93	31	69	77
Rubber boots and shoes.....	12	-----	58	42	96	33	67	90
Automobile tires.....	42	-----	98	2	100	50	50	103
Shipbuilding.....	30	-----	87	13	98	17	83	58
Total	9,418	(1)	81	18	97	34	65	90

¹ Less than one-half of 1 per cent.

Trend of Employment and Pay-Roll Totals in Cotton-Goods Mills, by Districts, 1923 to 1928

THE trend of employment and the trend of pay-roll totals in the three principal cotton manufacturing districts of the United States—New England, Middle Atlantic, and Southern—are shown in Table 9 and the accompanying chart.

The information collected is presented in the form of index numbers which show relatively the movement of employment and pay-roll totals, from month to month, from January, 1923, to September, 1928. In computing these index numbers the monthly average for 1923 is

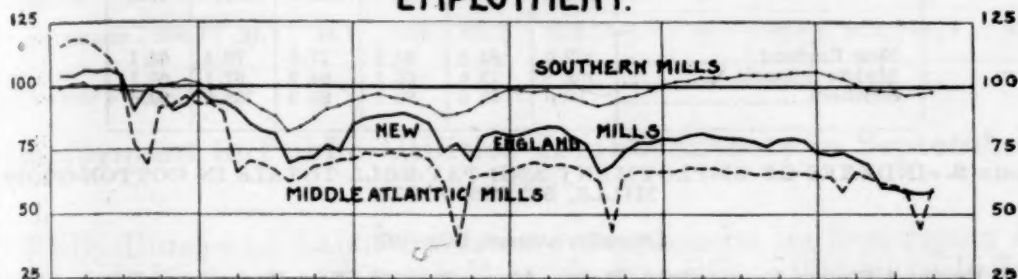
used as the base or 100. The data for 69 months are linked together by means of a chain index, the per cents of change from month to month being obtained by comparing reports from identical establishments for each two consecutive months. The number of establishments reporting has varied from month to month, and the average number in 1928 is considerably greater than in 1923, but even in the earlier year so large a number of employees was represented in each district as to render the information representative of the industry as a whole in the respective districts.

In September, 1928, the representation from each district was as follows: New England, 102 establishments, 64,344 employees, and

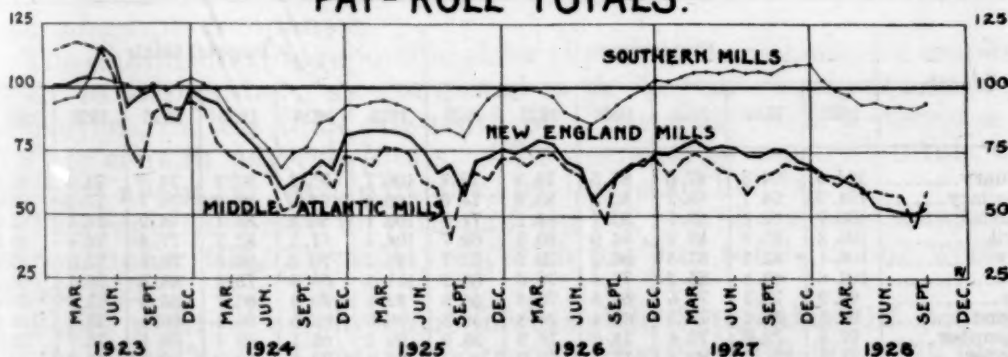
TREND OF EMPLOYMENT & PAY-ROLL TOTALS IN COTTON-GOODS MILLS.

MONTHLY AVERAGE 1923 = 100.

EMPLOYMENT.



PAY-ROLL TOTALS.



\$1,219,617 pay-roll total; Middle Atlantic, 25 establishments, 11,250 employees, and \$239,011 pay-roll total; Southern, 323 establishments, 122,246 employees, and \$1,535,029 pay-roll total.

The range of employment has been greatest in the Middle Atlantic States, the index standing at 118.4 for February, 1923, and at 38.6 for August, 1925; for September, 1928, the index is 59.9. The New England States' employment index has ranged from 106.7 for March, 1923, to 58.3 for August, 1928. The Southern States' employment index has ranged from 106 for December, 1927, to 82.1 for July, 1924; for September, 1928, the index is 97.5.

The monthly average index for 1927 was *slightly* higher than the average index for 1926 in both the New England and Middle Atlantic districts, while in the Southern States the 1927 average was *considerably* higher than in 1926.

The average monthly indexes in the New England and Middle Atlantic geographic divisions were considerably lower in each year

from 1924 to 1927, inclusive, than in 1923, while in the Southern States the average, although lower in 1924, 1925, and 1926, than in 1923, was 4.1 higher in 1927 than in the base year.

Comparative employment conditions in the three districts are further exemplified by the following tabular statement, which shows the average monthly index for each district for the first 9 months of each year, 1923 to 1928, inclusive. This statement shows that, while average monthly employment in the New England States was 36 per cent lower in the first 9 months of 1928 than in the same period of 1923 and 41 per cent lower in the Middle Atlantic States, there was no change in the Southern States in 1928 as compared with 1923.

District	Average index of employment for first 9 months of—					
	1923	1924	1925	1926	1927	1928
New England.....	102.0	82.5	83.2	77.6	79.4	65.1
Middle Atlantic.....	102.1	72.6	67.1	64.9	67.1	60.1
Southern.....	99.6	91.5	93.1	95.9	103.6	99.6

TABLE 9.—INDEXES OF EMPLOYMENT AND PAY-ROLL TOTALS IN COTTON-GOODS MILLS, BY DISTRICTS

[Monthly average, 1923=100]

New England States: Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island and Vermont

Month	Employment						Pay-roll totals					
	1923	1924	1925	1926	1927	1928	1923	1924	1925	1926	1927	1928
January.....	104.5	94.8	87.0	81.3	79.1	73.4	100.7	95.8	82.3	74.9	74.2	65.1
February.....	104.3	94.1	88.1	82.8	80.9	74.0	100.4	94.0	83.2	76.7	77.3	65.0
March.....	106.7	91.1	88.7	84.1	81.1	71.8	103.1	87.2	83.1	78.9	78.6	62.3
April.....	105.8	85.9	80.2	84.0	80.3	69.7	104.4	81.5	82.7	77.4	76.6	60.2
May.....	106.1	82.2	87.5	80.3	79.9	61.1	116.2	76.2	80.5	70.8	77.0	53.5
June.....	104.6	80.8	85.2	77.4	79.6	60.2	111.3	68.9	75.1	68.8	76.1	52.3
July.....	90.2	70.1	74.6	66.5	78.4	58.8	92.9	59.9	66.7	55.8	73.7	51.1
August.....	98.6	71.6	77.5	68.4	76.8	58.3	96.6	63.0	69.4	60.1	73.4	50.3
September.....	97.3	72.0	70.8	74.0	78.9	58.9	99.1	66.1	58.4	66.1	75.7	52.3
October.....	91.1	76.6	80.4	77.7	79.6	-----	88.0	70.6	71.8	69.9	75.7	-----
November.....	92.7	74.9	82.1	77.5	78.5	-----	87.5	68.0	72.8	69.7	71.4	-----
December.....	98.3	85.0	80.5	79.2	74.6	-----	99.6	81.9	75.2	74.1	69.5	-----
Average.....	100.0	81.6	82.6	77.8	79.0	65.1	100.0	76.1	75.1	70.3	74.9	56.9

Middle Atlantic States: New Jersey, New York, and Pennsylvania

January.....	115.9	94.1	73.3	68.6	67.0	64.5	114.8	91.3	71.5	72.2	66.0	64.1
February.....	118.4	89.7	72.9	70.0	68.0	58.5	116.1	79.0	69.2	69.3	71.6	61.2
March.....	118.2	66.8	74.1	69.2	67.7	66.9	118.0	72.9	76.1	73.1	74.2	65.4
April.....	115.0	70.9	73.0	69.6	68.2	64.0	117.2	69.6	75.6	73.5	71.2	58.6
May.....	110.8	69.7	73.4	68.9	66.5	61.6	114.9	67.0	73.5	68.0	67.4	59.4
June.....	103.5	67.2	71.1	66.8	67.2	60.9	104.6	64.6	63.1	65.1	65.9	57.7
July.....	76.5	63.1	62.5	62.6	66.3	59.8	76.8	52.0	60.1	58.0	58.7	57.6
August.....	69.1	63.9	38.6	43.4	66.1	44.4	68.5	53.3	40.9	46.8	64.6	45.2
September.....	91.8	68.2	64.6	64.8	66.6	59.9	90.0	66.6	60.1	65.8	66.5	58.9
October.....	92.3	69.3	65.4	66.7	66.1	-----	93.3	66.8	66.7	68.6	70.0	-----
November.....	95.5	70.7	65.5	66.5	66.0	-----	91.6	60.5	63.7	71.7	68.5	-----
December.....	92.9	71.6	67.3	66.7	65.0	-----	94.2	72.9	71.9	71.5	68.4	-----
Average.....	100.0	72.1	66.8	65.3	66.7	60.1	100.0	68.0	66.0	67.0	67.8	58.7

¹ Average for 9 months

TABLE 9.—INDEXES OF EMPLOYMENT AND PAY-ROLL TOTALS IN COTTON-GOODS MILLS, BY DISTRICTS—Continued

Southern States: Delaware, Florida, Georgia, Maryland, North Carolina, South Carolina, Virginia, West Virginia, Alabama, Kentucky, Mississippi, Tennessee, Arkansas, Louisiana, Oklahoma, and Texas

Month	Employment						Pay-roll totals					
	1923	1924	1925	1926	1927	1928	1923	1924	1925	1926	1927	1928
January	99.4	99.6	96.0	98.9	101.5	104.7	93.8	101.3	92.9	99.3	102.2	102.7
February	100.7	99.8	97.1	97.9	102.3	103.2	95.5	99.9	94.4	99.8	104.4	99.8
March	101.2	97.3	95.4	98.7	103.3	101.4	96.4	91.5	94.8	98.4	105.6	97.4
April	99.7	94.2	95.2	96.8	103.6	99.3	103.3	87.2	93.4	96.7	106.1	93.4
May	99.4	91.1	93.5	95.5	103.4	98.7	103.3	80.8	91.5	90.7	105.6	94.5
June	98.8	88.0	92.4	93.8	104.3	98.3	102.2	75.7	87.0	87.9	106.7	92.6
July	98.6	82.1	88.6	92.5	104.6	96.5	100.8	68.6	82.9	85.6	105.7	92.4
August	98.2	84.2	89.4	93.6	104.8	97.0	99.1	74.0	83.1	88.8	106.3	92.0
September	100.1	87.1	90.1	95.4	104.6	97.5	101.0	76.5	80.3	93.2	106.0	94.2
October	100.4	90.9	94.2	96.8	105.0	-----	99.6	85.6	89.7	96.6	108.3	-----
November	102.3	92.6	96.8	98.7	105.9	-----	101.7	87.5	95.3	99.2	108.7	-----
December	101.0	94.7	99.4	100.2	106.0	-----	103.8	93.1	99.6	102.6	109.0	-----
Average	100.0	91.8	94.0	96.6	104.1	99.6	100.0	85.1	90.4	94.9	106.2	95.4

1 Average for 9 months.

Employment in Public Utilities Establishments in September, 1928

THE Bureau of Labor Statistics here presents its first report on employment and pay-roll totals in public utilities, including electric railway, electric power and light, gas, water, telephone, and telegraph companies.

The establishments reporting show practically no change in employment in September, as compared with August—an increase of 14 employees, or less than one-tenth of 1 per cent—with a decrease of 1.8 per cent in pay-roll totals. The decrease in pay-roll totals was brought about, at least partially, by the labor holiday.

This report is based on returns from 292 establishments which had in September 107,573 employees, with pay-roll totals in one week of \$3,284,052.

Public utilities' employment increased in September 0.6 per cent in the East North Central geographic division, 1.6 per cent in the Mountain division, 3.4 per cent in the South Atlantic division, and 11.5 per cent in the East South Central division; the decreases in employment in the remaining five divisions ranged from 0.3 per cent in the West North Central division to 3.3 per cent in the Middle Atlantic division.

TABLE 1.—COMPARISON OF EMPLOYMENT AND PAY-ROLL TOTALS IN IDENTICAL PUBLIC UTILITIES ESTABLISHMENTS DURING ONE WEEK EACH IN AUGUST AND SEPTEMBER, 1928, BY GEOGRAPHIC DIVISIONS

Geographic division	Estab-lish-ments	Number on pay roll		Per cent of change	Amount of pay roll		Per cent of change
		August, 1928	Septem-ber, 1928		August, 1928	Septem-ber, 1928	
New England ¹	20	5,330	5,192	-2.6	\$175,510	\$169,367	-3.5
Middle Atlantic ²	41	16,691	16,140	-3.3	542,599	527,695	-2.7
East North Central ³	127	52,632	52,931	+0.6	1,696,650	1,661,201	-2.1
West North Central ⁴	31	12,382	12,351	-0.3	369,242	360,189	-2.5
South Atlantic ⁵	31	6,535	6,760	+3.4	177,690	180,243	+1.4
East South Central ⁶	8	2,766	3,084	+11.5	73,673	82,156	+11.5
West South Central ⁷	21	6,395	6,286	-1.7	164,050	161,658	-1.5
Mountain ⁸	8	2,326	2,364	+1.6	63,950	62,567	-2.2
Pacific ⁹	5	2,502	2,465	-1.5	82,080	78,976	-3.8
All divisions	292	107,559	107,573	+(10)	3,345,444	3,284,952	-1.8

¹Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont.²New Jersey, New York, Pennsylvania.³Illinois, Indiana, Michigan, Ohio, Wisconsin.⁴Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota.⁵Delaware, District of Columbia, Florida, Georgia, Maryland, North Carolina, South Carolina, Virginia, West Virginia.⁶Alabama, Kentucky, Mississippi, Tennessee.⁷Arkansas, Louisiana, Oklahoma, Texas.⁸Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah, Wyoming.⁹California, Oregon, Washington.¹⁰Less than one-tenth of 1 per cent.

Employment in Wholesale and Retail Trade Establishments in September, 1928

EMPLOYMENT in 1,496 establishments—wholesale and retail trade combined—increased 4.4 per cent in September, as compared with August, 1928, and pay-roll totals increased 3.3 per cent, the shut-down on Labor Day accounting for the apparent discrepancy between employment and pay-roll totals. These 1,496 establishments had in September 114,194 employees whose combined earnings in one week amounted to \$2,880,908.

Wholesale Trade

EMPLOYMENT in wholesale trade in September was 2 per cent greater than in August and pay-roll totals were practically unchanged, there having been a decrease in September of only \$33 or less than one-tenth of 1 per cent.

This report is based on returns from 544 establishments, having in September 23,562 employees whose combined earnings in one week were \$663,003.

Employment in wholesale trade increased in September in 6 of the 9 geographic divisions, as follows: 5.8 per cent in the East North Central division; from 2.6 per cent to 2.9 per cent in the New England, Middle Atlantic, South Atlantic, and West South Central divisions; and 0.6 per cent in the Mountain division. The employment decreases in the remaining 3 divisions ranged from 1.2 per cent to 1.9 per cent each.

TABLE 1.—COMPARISON OF EMPLOYMENT AND PAY-ROLL TOTALS IN IDENTICAL WHOLESALE TRADE ESTABLISHMENTS DURING ONE WEEK EACH IN AUGUST AND SEPTEMBER, 1928, BY GEOGRAPHIC DIVISIONS

Geographic division ¹	Estab- lish- ments	Number on pay roll		Per cent of change	Amount of pay roll		Per cent of change
		August, 1928	Septem- ber, 1928		August, 1928	Septem- ber, 1928	
New England.....	45	1, 163	1, 193	+2. 6	\$33, 567	\$33, 660	+0. 3
Middle Atlantic.....	146	5, 230	5, 383	+2. 9	164, 184	164, 601	+0. 3
East North Central.....	83	5, 147	5, 445	+5. 8	144, 431	148, 132	+2. 6
West North Central.....	62	5, 545	5, 477	-1. 2	146, 020	140, 325	-3. 9
South Atlantic.....	64	1, 252	1, 286	+2. 7	38, 658	38, 505	-0. 4
East South Central.....	15	427	419	-1. 9	9, 628	9, 392	-2. 5
West South Central.....	39	1, 778	1, 830	+2. 9	52, 429	53, 535	+2. 1
Mountain.....	16	523	526	+0. 6	17, 346	18, 911	+9. 0
Pacific.....	74	2, 035	2, 003	-1. 6	56, 773	55, 942	-1. 5
All divisions.....	544	23, 100	23, 562	+2. 0	663, 036	663, 003	-(²)

¹ See footnotes 1 to 9, p 156.² Less than one-tenth of 1 per cent.

Retail Trade

EMPLOYMENT in retail trade was 5.1 per cent greater in September than in August, and pay-roll totals were 4.4 per cent higher. These statements are based on returns from 952 establishments which in September had 90,632 employees whose combined earnings in one week were \$2,217,905.

Employment in retail trade increased in September in 7 of the 9 geographic divisions, the increases ranging from 11 per cent in the East North Central division to 0.9 in the New England division; the Mountain division and the Pacific division in September lost 15.1 per cent and 3.2 per cent, respectively, of their employees.

TABLE 2.—COMPARISON OF EMPLOYMENT AND PAY-ROLL TOTALS IN IDENTICAL RETAIL TRADE ESTABLISHMENTS DURING ONE WEEK EACH IN AUGUST AND SEPTEMBER, 1928, BY GEOGRAPHIC DIVISIONS

Geographic division ¹	Es- tab- lish- ments	Number on pay roll		Per cent of change	Amount of pay roll		Per cent of change
		August, 1928	Septem- ber, 1928		August, 1928	Septem- ber, 1928	
New England.....	17	6, 214	6, 272	+0. 9	\$152, 785	\$157, 613	+3. 2
Middle Atlantic.....	96	18, 116	19, 216	+6. 1	456, 041	477, 945	+4. 8
East North Central.....	77	26, 739	29, 678	+11. 0	773, 239	830, 220	+7. 4
West North Central.....	26	3, 609	3, 790	+5. 0	71, 634	76, 552	+6. 9
South Atlantic.....	52	8, 590	9, 085	+5. 8	175, 355	181, 569	+3. 5
East South Central.....	118	2, 698	2, 783	+3. 2	56, 763	58, 025	+2. 2
West South Central.....	14	3, 084	3, 320	+7. 7	59, 176	64, 842	+9. 6
Mountain.....	23	1, 237	1, 050	-15. 1	23, 392	21, 353	-8. 7
Pacific.....	529	15, 945	15, 438	-3. 2	357, 025	349, 786	-2. 0
All divisions.....	952	86, 232	90, 632	+5. 1	2, 125, 410	2, 217, 905	+4. 4

¹ See footnotes 1 to 9, p. 156.

Employment on Steam Railroads in the United States

THE monthly trend of employment from January, 1923, to August, 1928, on Class I railroads—that is, all roads having operating revenues of \$1,000,000 or over—is shown by the index numbers published in Table 1. These index numbers are constructed from monthly reports of the Interstate Commerce Commission, using the monthly average for 1923 as 100.

TABLE 1.—INDEX OF EMPLOYMENT ON CLASS I STEAM RAILROADS IN THE UNITED STATES, JANUARY, 1923, TO AUGUST, 1928

[Monthly average, 1923=100]

Month	1923	1924	1925	1926	1927	1928
January.....	94.6	93.1	91.9	92.1	91.8	85.8
February.....	94.8	93.2	91.7	92.3	91.6	85.5
March.....	96.6	93.6	91.5	92.9	92.1	86.4
April.....	98.0	95.0	92.8	95.0	93.6	88.1
May.....	100.9	95.3	94.0	96.3	95.5	90.8
June.....	102.9	94.2	94.8	97.6	97.0	92.2
July.....	104.0	94.3	95.5	98.9	97.1	91.9
August.....	105.1	95.1	95.8	98.7	95.6	92.0
September.....	103.6	95.8	96.0	98.8	95.2	-----
October.....	103.1	96.9	96.8	99.4	95.0	-----
November.....	101.1	95.1	95.2	97.3	92.0	-----
December.....	95.5	92.3	93.3	94.4	88.3	-----
Average.....	100.0	94.5	94.1	96.1	93.7	¹ 89.1

¹ Average for 8 months.

Table 2 shows the total number of employees on the 15th day each of August, 1927, and July and August, 1928, and pay-roll totals for each of the entire months considered, by principal occupational groups and various important occupations.

In these tabulations data for the occupational group reported as "executives, officials, and staff assistants" are omitted.

TABLE 2.—EMPLOYMENT AND EARNINGS OF RAILROAD EMPLOYEES—AUGUST, 1927, AND JULY AND AUGUST, 1928

[From monthly reports of Interstate Commerce Commission. As data for only the more important occupations are shown separately, the group totals are not the sum of the items under the respective groups]

Occupation	Number of employees at middle of month			Total earnings		
	August, 1927	July, 1928	August, 1928	August, 1927	July, 1928	August, 1928
Professional, clerical, and general.	280,926	272,216	271,959	\$40,487,030	\$39,224,523	\$39,889,239
Clerks.....	162,806	155,707	155,528	22,335,860	21,296,963	21,773,201
Stenographers and typists.....	25,248	24,644	24,663	3,243,792	3,171,647	3,233,501
Maintenance of way and structures.	470,563	457,732	452,338	45,287,945	41,743,466	43,842,054
Laborers, extra gang and work train.....	89,033	81,820	80,445	7,444,254	6,470,961	6,778,643
Laborers, track and roadway section.....	240,289	234,519	234,461	18,652,275	17,078,664	18,136,179

TABLE 2.—EMPLOYMENT AND EARNINGS OF RAILROAD EMPLOYEES—AUGUST, 1927, AND JULY AND AUGUST, 1928—Continued

Occupation	Number of employees at middle of month			Total earnings		
	August, 1927	July, 1928	August, 1928	August, 1927	July, 1928	August, 1928
Maintenance of equipment and stores	482,397	457,943	456,807	\$65,683,390	\$60,107,435	\$62,521,808
Carmen	103,762	99,266	99,453	16,159,743	14,757,935	15,506,575
Machinists	57,490	55,314	55,119	9,340,734	8,581,953	8,999,140
Skilled trades helpers	106,338	100,602	100,221	12,270,224	11,123,885	11,640,107
Laborers (shops, engine houses, power plants, and stores)	40,464	38,118	37,361	3,936,442	3,627,060	3,616,597
Common laborers (shops, engine houses, power plants, and stores)	55,258	52,024	52,536	4,679,392	4,184,490	4,438,426
Transportation, other than train, engine, and yard	205,428	198,808	198,643	26,194,390	25,180,522	25,729,766
Station agents	30,413	29,904	29,868	4,895,650	4,772,201	4,880,325
Telegraphers, telephoners, and towermen	24,407	23,462	23,449	3,814,018	3,684,255	3,701,318
Truckers (stations, warehouses, and platforms)	35,680	33,652	33,851	3,549,740	3,212,258	3,412,666
Crossing and bridge flagmen and gatemen	22,006	21,400	21,284	1,703,711	1,646,735	1,644,246
Transportation (yard masters, switch tenders, and hostlers)	23,086	22,122	22,053	4,580,906	4,438,344	4,462,245
Transportation, train and engine	316,740	308,002	312,105	67,201,663	63,276,033	66,604,750
Road conductors	36,401	35,472	35,676	9,130,376	8,483,772	8,864,824
Road brakemen and flagmen	72,090	70,060	70,645	13,394,436	12,170,834	12,850,154
Yard brakemen and yard helpers	51,739	50,433	51,297	9,675,523	9,030,316	9,596,648
Road engineers and motormen	43,323	41,768	42,268	12,075,398	11,649,192	12,192,193
Road firemen and helpers	44,217	42,836	42,884	9,074,009	8,607,845	9,005,866
Total, all employees	1,779,140	1,711,823	1,713,905	249,435,324	233,970,323	243,049,864

Effect of "Talking Movies" Upon Employment of Musicians and of Actors

NEW instances of the decrease of jobs as the result of the increase of mechanization emphasize the fact that unemployment overshadows scientific progress in the artistic world as well as in industry. The account here given of certain developments along this line in musical and dramatic fields is based on an article in the August, 1928, issue of the Journal of the Electrical Workers.

Over two hundred theaters are already equipped with machines for synchronizing the spoken word and music with action on the screen, and approximately 1,000 have prepared to install such machines, according to a recent statement referred to in a declaration from the president of the American Federation of Musicians.

This organization, it is said, intends to oppose with all its strength this new movement. It may be recalled that at its last convention, held in May, 1928, this federation raised its dues to an amount which would provide an addition of \$1,500,000 per annum to its defense fund. In fighting this adoption of "canned" music the president of the musicians' federation states that his organization "would be doing the general public a great service." Theater patrons he holds are actually facing a total loss of high-class music for which, however, they will be called upon to pay. This mechanically produced entertainment may at first have the charm of novelty—but the official

spokesman for the musicians' union holds that this charm will not last—that "an art can not be mechanized." He prophesies that if competing theaters generally have adopted this invention, people will have to resign themselves to it or else refrain from going to the theater, as the motion-picture business is practically a monopoly.

From the musicians' viewpoint the apparent determination of some theater owners to make this change comes as a tragic threat, not only to their individual fortunes, but also to their art. It means literally corruption of the public taste for good music. It means that the worker is to be photographed at his labor and then driven from his job by the competition of this photograph.

We want it understood that we are not opposing scientific progress. Argument is scarcely required to establish that canned music—however perfect the reproduction—can not approach the genuine article. Music is dependent for its quality upon the mood of the artist. The public will not be allowed to realize this. What we fear is that this form of entertainment will be patronized as a novelty and thus will gradually transplant real music in theaters.

Organized musicians are appealing to music lovers and union sympathizers all over the country to combine their forces for the purpose of convincing the theatrical interests that the elimination of musicians from the theaters will not be profitable.

The attitude of the Actors' Equity Association is that its members should insist upon being paid from the time the actor is assigned the part until the completion of the actual taking of the picture. At present the actors are given parts to study three or four weeks before the "talkie" producers call for rehearsals. The actual rehearsal under a director is said to require only 2 or 3 days, and the taking of the picture from 8 to 10 days. Under these conditions actors receive remuneration only for the time they are actually before the camera. The assistant secretary of the Actors' Equity Association reports that—

The actor does not receive even the equivalent of the minimum contract he gets in the theater. Most actors feel that they are required to rehearse at least three weeks and sometimes four weeks without pay for the legitimate producer and only one or two days for the talking-picture producer. This is true, but the theatrical producer is bound to give the actor at least two weeks' work and more frequently the actor gets a season of work. Very often several seasons of work follow these three or four weeks of rehearsal.

Furthermore, the talking picture furnishes the actor with only one or two weeks' work while the producer profits for a year or more. The actor does not seem to be aware that he is competing with himself. The "talkie" which he has helped to make may be shown directly across the street from a theater in which he is appearing in the flesh in the same play.

Convention of International Association of Public Employment Services

THE International Association of Public Employment Services of the United States and Canada held its sixteenth annual convention at Cleveland, September 18–21, 1928.

Among the principal subjects of discussion were the following:

The New York State survey of unemployment; What constitutes a good public employment service; The creation and maintenance of public interest in public employment offices; How can the public

employment service best serve in time of unemployment; The State's relationship to fee-charging employment agencies; Job specifications—the age limit in industry; The relationship of the church to the public employment service; The trend of labor in industry; The place of the colored worker in industry; Employment problems of the Southern States; The public employment service—its weakness and strength; What the employer expects from the public employment service; The collection, tabulation, and distribution of employment information; and Labor saving machinery as a factor in unemployment.

Changes in Employment and Pay Rolls in Various States

THE following data as to changes in employment and pay rolls have been compiled from reports received from the various State labor offices:

PER CENT OF CHANGES IN EMPLOYMENT AND PAY ROLLS IN SPECIFIED STATES

Monthly period

State and industry group	Per cent of change, July to August, 1928		State and industry group	Per cent of change, August to September, 1928	
	Employment	Pay roll		Employment	Pay roll
Illinois			Maryland		
Stone, clay, and glass products.....	-0.4	+7.4	Food products.....	+2.9	+1.1
Metals, machinery, and conveyances.....	+5.3	+8.9	Textiles.....	+2.4	+1.2
Wood products.....	+2.4	+12.2	Iron and steel and their products.....	-8.1	-9.7
Furs and leather goods.....	+5	+3.2	Lumber and its products.....	-2.3	+6.3
Chemicals, oils, paints, etc.....	+7	+5.3	Leather and its products.....	+4.5	+12.1
Printing and paper goods.....	-5	-4	Rubber tires.....	+7.9	+7.9
Textiles.....	+3.0	+14.1	Paper and printing.....	+1.2	+2.5
Clothing, millinery.....	-1.4	-6	Chemicals and allied products.....	+4.7	+6.9
Food, beverages, and tobacco.....	-7	-2.1	Stone, clay, and glass products.....	+2.9	-2.0
All manufacturing industries.....	+2.6	+5.4	Metal products other than iron and steel.....	+9	+5.2
Trade, wholesale and retail.....	-8.3	-11.6	Tobacco products.....	+6.3	+4.6
Public utilities.....	+3	+4.0	Machinery (not including transportation equipment).....	-2.8	-1
Coal mining.....	+21.2	+21.2	Musical instruments.....	-2.5	+4.8
Building and contracting.....	+3.7	+2.9	Transportation equipment.....	-4.6	-6.8
All industries.....	+1.9	+4.5	Car building and repairing.....	-3	-4.9
			Miscellaneous.....	+9.7	+13.0
			All industries.....	+1.0	+1.7
Iowa			Massachusetts		
Food and kindred products.....	+0.4		Boots and shoes.....	70.1	71.8
Textiles.....	-2.5		Bread and other bakery products.....	101.0	106.1
Iron and steel works.....	+9		Cars and general shop construction and repairs, steam railroads.....	70.1	70.3
Lumber products.....	-9		Clothing, men's and women's.....	92.4	95.5
Leather products.....	+1.5		Confectionery.....	81.9	81.4
Paper products, printing and publishing.....	+4.4		Cotton goods.....	42.0	42.2
Patent medicines, chemicals, and compounds.....	+1.7		Dyeing and finishing textiles.....	95.6	98.3
Stone and clay products.....	-2.5				
Tobacco and cigars.....	+4				
Railway car shops.....	-3.6				
Various industries.....	+3				
All industries.....	-0.4				

PER CENT OF CHANGES IN EMPLOYMENT AND PAY ROLLS IN SPECIFIED STATES—Continued

Monthly period—Continued

State and industry group	Employment— index numbers (1919-1923=100)		State and industry group	Per cent of change, August to September, 1928	
	August, 1928	September, 1928		Employ- ment	Pay roll
Massachusetts—Continued			Oklahoma—Continued		
Electrical machinery, apparatus and supplies.....	103.5	107.1	Metals and machinery—Con- struction and erection.....	+16.8	+52.6
Foundry and machine-shop products.....	65.1	66.6	Oil industry: Producing and gasoline manufacture.....	+5.9	+9.6
Furniture.....	96.2	103.5	Refineries.....	+1.3	-6.7
Hosiery and knit goods.....	64.5	67.6	Printing: Job work.....	0	-4
Jewelry.....	102.0	106.1	Public utilities: Steam railway shops.....	+1.6	+4.4
Leather: tanned, curried, and finished.....	82.7	83.1	Street railways.....	+4.4	-1.5
Paper and wood pulp.....	91.4	90.9	Water, light, and power.....	+7.0	+1
Printing and publishing.....	104.0	106.6	Stone, clay, and glass: Brick and tile.....	+5.7	+6
Rubber footwear.....	95.9	97.6	Cement and plaster.....	-2.3	-2.3
Rubber goods, tires, and tubes.....	87.2	91.9	Crushed stone.....	-11.0	-14.3
Silk goods.....	104.6	102.3	Glass manufacture.....	-7.7	-9.4
Textile machinery and parts.....	48.6	49.2	Textiles and cleaning: Textile manufacture.....	+17.3	+6.0
Woolen and worsted goods.....	76.3	76.3	Laundries, etc.....	-7.2	-3.1
All industries.....	74.2	75.6	Woodworking: Sawmills.....	-10.3	+5.9
	Per cent of change, July to August, 1928		Millwork, etc.....	+13.1	+20.9
	Employ- ment	Pay roll	All industries.....	-1.0	-1.3
New York			Index numbers (1923-1925=100)		
Stone, clay, and glass.....	+0.6	-0.8		August, 1928	Septem- ber, 1928
Metals and machinery.....	+1.3	+2.3	Pennsylvania		
Wood manufactures.....	+3.9	+4.0	Metal products.....	86.7	88.9
Furs, leather, and rubber goods.....	+1.9	+4.9	Transportation equipment.....	68.7	67.8
Chemicals, oils, paints, etc.....	+1.3	+2	Textile products.....	95.3	94.5
Paper.....	+8	+7	Foods and tobacco.....	99.6	99.2
Printing and paper goods.....	-4	-5	Stone, clay, and glass products.....	86.5	83.7
Textiles.....	+1.9	+2.5	Lumber products.....	84.0	84.6
Clothing and millinery.....	+2.1	+5.4	Chemical products.....	95.0	97.9
Food and tobacco.....	-1.7	-1.8	Leather and rubber products.....	97.8	98.8
Water, light, and power.....	-1	+5	Paper and printing.....	93.2	93.5
All industries.....	+1.1	+2.0	All industries.....	88.6	89.3
	August to Sep- tember, 1928		Pay roll		
Oklahoma			Metal products.....	91.4	90.9
Cottonseed-oil mills.....	+146.8	+124.4	Transportation equipment.....	66.7	66.2
Food production: Bakeries.....	-4.9	0	Textile products.....	98.0	99.8
Confections.....	+37.2	+35.9	Foods and tobacco.....	98.0	100.0
Creameries and dairies.....	-8.9	-11.1	Stone, clay, and glass products.....	88.1	81.8
Flour mills.....	-4.2	+8	Lumber products.....	86.0	88.5
Ice and ice cream.....	-14.4	-13.0	Chemical products.....	103.1	104.0
Meat and poultry.....	+11.0	+20.5	Leather and rubber products.....	103.8	104.8
Lead and zinc: Mines and mills.....	-34.8	-33.7	Paper and printing.....	104.5	103.6
Smelters.....	-3	-1.5	All industries.....	90.9	90.7
Metals and machinery: Auto repairs, etc.....	+5.5	-7.3			
Machine shops and found- ries.....	+3.4	+10.9			

PER CENT OF CHANGES IN EMPLOYMENT AND PAY ROLLS IN SPECIFIED STATES—Continued

Monthly period—Continued

State and industry group	Per cent of change, June to July, 1928		State and industry group	Per cent of change, June to July, 1928																																																																																																	
	Employment	Pay roll		Employment	Pay roll																																																																																																
Wisconsin			Wisconsin—Continued																																																																																																		
<i>Manual</i>			<i>Manual—Continued</i>																																																																																																		
Agriculture.....	-1.4		Construction:																																																																																																		
Mining.....	+6	-16.1	Highway.....	+4.0	+4.9	Stone crushing and quarrying.....	-2.6	-3.8	Railroad.....	+3.3	+2.1	Manufacturing:			Marine dredging, sewer digging.....	+10.6	+5.5	Stone and allied industries.....	+1.1	-6.3	Communication:			Metal.....	+8	-8.3	Steam railways.....	+1.6	-2.2	Wood.....	-1.5	-10.5	Electric railways.....	-2	-3.6	Rubber.....	-1.1	-9.3	Express, telephone, and telegraph.....	+3.9	+2.8	Leather.....	-1.3	-5.8	Wholesale trade.....	-3	-10.3	Paper.....	-1.6	-9.6	Hotels and restaurants.....	+3.2		Textiles.....	+2.2	-11.4	<i>Nonmanual</i>			Foods.....	+47.7	+21.3	Manufacturing, mines, and quarries.....	+9	+1.9	Light and power.....	+5.5	+3	Construction.....	-2.0	+9	Printing and publishing.....	+1.1	-2.5	Communication.....	+2.2	-1.4	Laundering, cleaning, and dyeing.....	+1.0	-9	Wholesale trade.....	-1.4	-1.2	Chemical (including soap, glue, and explosives).....	+4.0	+7	Retail trade—sales force only.....	+2	-3.4	All manufacturing.....	+4.2	-5.8	Miscellaneous professional services.....	+2	+1.5				Hotels and restaurants.....	-5.2	
Stone crushing and quarrying.....	-2.6	-3.8	Railroad.....	+3.3	+2.1	Manufacturing:			Marine dredging, sewer digging.....	+10.6	+5.5	Stone and allied industries.....	+1.1	-6.3	Communication:			Metal.....	+8	-8.3	Steam railways.....	+1.6	-2.2	Wood.....	-1.5	-10.5	Electric railways.....	-2	-3.6	Rubber.....	-1.1	-9.3	Express, telephone, and telegraph.....	+3.9	+2.8	Leather.....	-1.3	-5.8	Wholesale trade.....	-3	-10.3	Paper.....	-1.6	-9.6	Hotels and restaurants.....	+3.2		Textiles.....	+2.2	-11.4	<i>Nonmanual</i>			Foods.....	+47.7	+21.3	Manufacturing, mines, and quarries.....	+9	+1.9	Light and power.....	+5.5	+3	Construction.....	-2.0	+9	Printing and publishing.....	+1.1	-2.5	Communication.....	+2.2	-1.4	Laundering, cleaning, and dyeing.....	+1.0	-9	Wholesale trade.....	-1.4	-1.2	Chemical (including soap, glue, and explosives).....	+4.0	+7	Retail trade—sales force only.....	+2	-3.4	All manufacturing.....	+4.2	-5.8	Miscellaneous professional services.....	+2	+1.5				Hotels and restaurants.....	-5.2							
Manufacturing:			Marine dredging, sewer digging.....	+10.6	+5.5	Stone and allied industries.....	+1.1	-6.3	Communication:			Metal.....	+8	-8.3	Steam railways.....	+1.6	-2.2	Wood.....	-1.5	-10.5	Electric railways.....	-2	-3.6	Rubber.....	-1.1	-9.3	Express, telephone, and telegraph.....	+3.9	+2.8	Leather.....	-1.3	-5.8	Wholesale trade.....	-3	-10.3	Paper.....	-1.6	-9.6	Hotels and restaurants.....	+3.2		Textiles.....	+2.2	-11.4	<i>Nonmanual</i>			Foods.....	+47.7	+21.3	Manufacturing, mines, and quarries.....	+9	+1.9	Light and power.....	+5.5	+3	Construction.....	-2.0	+9	Printing and publishing.....	+1.1	-2.5	Communication.....	+2.2	-1.4	Laundering, cleaning, and dyeing.....	+1.0	-9	Wholesale trade.....	-1.4	-1.2	Chemical (including soap, glue, and explosives).....	+4.0	+7	Retail trade—sales force only.....	+2	-3.4	All manufacturing.....	+4.2	-5.8	Miscellaneous professional services.....	+2	+1.5				Hotels and restaurants.....	-5.2													
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Yearly period

State and industry group	Per cent of change, August, 1927, to August, 1928		State and industry group	Per cent of change, August, 1927, to August, 1928	
	Employment	Pay roll		Employment	Pay roll
California			New York		
Stone, clay, and glass products.....	-11.4	-12.8	Stone, clay, and glass.....	-4.9	-5.6
Metals, machinery, and conveyances.....	+2.5	+3.9	Metals and machinery.....	-3.1	-2.0
Wood manufactures.....	-3.5	-1.1	Wood manufactures.....	-7.8	-8.7
Leather and rubber goods.....	+12.2	+14.2	Furs, leather, and rubber goods.....	-4.8	-6.8
Chemicals, oils, paints, etc.....	+8.8	+13.1	Chemicals, oils, paints, etc.....	-6.1	-4.7
Printing and paper goods.....	0	+5	Paper.....	+1.6	+3.1
Textiles.....	-11.2	-8.9	Printing and paper goods.....	+3	+1.6
Clothing, millinery, and laundering.....	+1	-3	Textiles.....	-5.6	-10.2
Foods, beverages, and tobacco.....	+6.0	-21.0	Clothing and millinery.....	-5.0	-4.8
Water, light, and power.....	+2.4	+10.9	Food and tobacco.....	-2.1	-.04
Miscellaneous.....	+1.9	+5	Water, light, and power.....	-6.2	-6.9
All industries.....	+2.0	+6.8	All industries.....	-3.8	-3.6

PER CENT OF CHANGES IN EMPLOYMENT AND PAY ROLLS IN SPECIFIED STATES—Continued

Yearly period—Continued

State and industry group	Per cent of change, September, 1927, to September, 1928		State and industry group	Index number (1923-1925=100)	
	Employment	Pay roll		September, 1927	September, 1928
Oklahoma			Pennsylvania—Continued		
Cottonseed-oil mills.....	-66.2	-64.8	Metal products.....	81.5	90.9
Food production:			Transportation equipment.....	83.5	66.2
Bakeries.....	+29.3	+26.5	Textile products.....	101.6	99.8
Confections.....	+16.6	+21.1	Foods and tobacco.....	99.4	100.0
Creameries and dairies.....	-9.5	-4.1	Stone, clay, and glass products.....	95.2	81.8
Flour mills.....	+22.8	+23.8	Lumber products.....	95.3	88.5
Ice and ice cream.....	+16.4	+9	Chemical products.....	100.0	104.0
Meat and poultry.....	+7.6	+17.6	Leather and rubber products.....	105.3	104.8
Lead and zinc:			Paper and printing.....	103.8	103.6
Mines and mills.....	-50.5	-51.6	All industries.....	89.1	90.7
Smelters.....	-5.3	-14.1			
Metals and machinery:			Per cent of change, July, 1927, to July, 1928		
Auto repairs, etc.....	+196.5	+190.7			
Machine shops and foundries.....	+7	+30.1			
Tank construction and erection.....	+14.5	+39.7			
Oil industry:			Wisconsin		
Producing and gasoline manufacture.....	-2	+44.8	<i>Manual</i>		
Refineries.....	-12.2	-47.9	Agriculture.....	-14.5	-27.2
Printing: Job work.....	+93.1	+139.5	Logging.....	-31.3	-21.2
Public utilities:			Mining.....	-48.0	-50.1
Steam railway shops.....	-9.9	-32.0	Stone crushing and quarrying.....	-7	+1.5
Street railways.....	-9	-1.1	Manufacturing:		
Water, light, and power.....	+14.6	+9.5	Stone and allied industries.....	-2.2	-9.3
Stone, clay, and glass:			Metal.....	+3.3	+9.7
Brick and tile.....	-34.9	-26.6	Wood.....	-3.4	-6.1
Cement and plaster.....	+218.9	+206.1	Rubber.....	+1.6	+1.5
Crushed stone.....	-19.3	+9.9	Leather.....	-4.4	-9.1
Glass manufacture.....	+12.7	+30.1	Paper.....	-3.7	-4.3
Textiles and cleaning:			Textiles.....	-9.1	-18.1
Textile manufacture.....	+224.7	+137.8	Foods.....	+1.7	-6
Laundries, etc.....	+34.6	+37.0	Light and power.....	+7.7	+4.8
Woodworking:			Printing and publishing.....	-5	-1.5
Sawmills.....	+169.2	+272.1	Laundering, cleaning and dyeing.....	+6	+1.2
Mill work, etc.....	+126.6	+178.7	Chemical (including soap, glue, and explosives).....	-10.2	-17.1
All industries.....	+2.8	-10.8	All manufacturing.....	-3	+6
	Index numbers (1923-1925=100)		Construction:		
	September, 1927	September, 1928	Building.....	-21.1	-17.4
	E mployment		Highway.....	+8.7	+8.9
			Railroad.....	+36.5	+31.6
			Marine dredging, sewer digging.....	-8.5	-16.2
			Communication:		
			Steam railways.....	-14.4	-6.7
			Electric railways.....	-34.0	-31.7
			Express, telephone, and telegraph.....	+12.8	+17.4
			Wholesale trade.....	+2.9	-4.8
			Hotels and restaurants.....	+6	-----
			<i>Nonmanual</i>		
			Manufacturing, mines, and quarries.....	-1.8	+2.2
			Construction.....	-4.5	-9.1
			Communication.....	+3.4	+3
			Wholesale trade.....	+8.2	+8.9
			Retail trade—sales force only.....	-6.2	-24.3
			Miscellaneous professional services.....	+1.8	-3.3
			Hotels and restaurants.....	-5.9	-----
Pennsylvania					
Metal products.....	85.3	88.9			
Transportation equipment.....	84.3	67.8			
Textile products.....	97.5	94.5			
Foods and tobacco.....	100.0	99.2			
Stone, clay, and glass products.....	95.0	83.7			
Lumber products.....	91.1	84.6			
Chemical products.....	92.5	97.9			
Leather and rubber products.....	99.9	98.8			
Paper and printing.....	95.6	93.5			
All industries.....	90.2	89.3			

Unemployment Research Bureau in Japan

A BUREAU of unemployment research is to be established in Japan in accordance with a recent decision of the bureau of social affairs of that country, according to an announcement in Industrial and Labor Information (Geneva) of September 17, 1928. The new agency will study different proposals for the amelioration and prevention of unemployment and in connection therewith will recommend to the Government a definite plan for execution. Upon the receipt of the bureau's recommendations, a committee headed by the Home Secretary will be appointed to formulate the requisite measures.

The budget for 1929 includes financial provision for the setting up of this new research office.

Proposals now being considered call for the following fundamental policies in coping with the problem of unemployment:

1. The setting aside by public institutions of a reserve fund for unemployment.
2. The establishment by private concerns of reserve funds for the payment of allowances to discharged workers.
3. The introduction by the State of unemployment insurance.

Census of Unemployment in Sweden in 1927

IN 1927 a comprehensive Government investigation was made of unemployment in Sweden. The inquiry included a general census of the unemployed and a special survey of conditions in certain localities. The more significant results of this undertaking are summarized below.¹

Extent of Unemployment

BY ORDER of the King a general census of the unemployed was taken on May 5, 1927, covering all the towns and industrial communes as well as certain of the more important agricultural communes. The total number of unemployed registered was 64,075, of whom 62,095 were men and 1,980 women.

After a close examination of the census registration cards of the unemployed 4,153 persons were eliminated as not coming within the scope of the inquiry because they were unable to work, had a more or less permanent occupation, were involved in labor disputes, were doing military service, or for some other reason could not be regarded as unemployed. This brought the number of the unemployed to 59,922, of whom 58,066 were men and 1,856 women. As women constituted only 3 per cent of the unemployed, one may say that the out-of-work problem among them was practically negligible.

The proportion of unemployed in the towns was 1.4 per cent; in industrial communes, 1.6 per cent; and in agricultural communes, 1.3 per cent. Of the approximately 60,000 unemployed, 26,000 were in the towns and 34,000 in the country, including 4,750 in the agricultural communes. In comparing the figures for the industrial communes with those for the agricultural communes it must be remem-

¹ Sweden. Socialdepartementet. Socialstyrelsen. Arbetslöshetsräkningen och de lokala arbetslöshetsundersökningarna i Sverige, År 1927. Stockholm, 1928. Pp. ix-xiv.

bered that all of the industrial communes were included in the inquiry and only part of the agricultural communes.

It is estimated that if returns had been made by all the agricultural communes the number of the unemployed would have been increased by approximately 14,700, making the total for all agricultural communes approximately 19,500, or about 0.8 per cent of the total population of such communes.

Ages of the Unemployed

THE following table gives the percentages of the unemployed by age groups and by sex:

TABLE 1.—PERCENTAGE DISTRIBUTION OF UNEMPLOYED BY SEX AND AGE GROUPS

Age group	Men	Women	Both sexes
	<i>Per cent</i>	<i>Per cent</i>	<i>Per cent</i>
14 to 20.....	19.2	32.2	19.6
21 to 30.....	36.2	30.1	36.0
31 to 40.....	16.9	13.4	16.8
41 to 50.....	11.8	12.8	11.9
51 to 60.....	9.3	8.0	9.2
Over 60.....	6.1	3.1	6.0
Age unknown.....	.5	.4	.5
Total.....	100.0	100.0	100.0

The average age of the unemployed covered by the inquiry was 32.8 years; of the unemployed men, 32.9 years; and of the unemployed women, 30 years. It will be seen from the above table that 6 per cent of the unemployed were over 60 years of age and consequently might be considered as excluded from the labor market. About 20 per cent were adolescents—14 to 20 years of age. Approximately one-third of the unemployed in the last-mentioned age group belonged in trades in which the unemployment shown in the census of May 5, 1927, was for the most part of a seasonal character. Moreover, a large number of these young persons resided with their parents, who possessed or operated properties varying in extent.

Marital Status and Family Responsibilities of Unemployed

OF THE unemployed, 36.2 per cent of the males and 7.7 per cent of the females were married; and 46.5 per cent of the males and 21.7 per cent of the females had one or more dependents.

Eliminating all dependents except those having the absolute right of maintenance, namely, wives and minor children, the average family responsibility per unemployed man was 1.07 persons and per unemployed woman 0.27 person. The average responsibility, however, per family head was 2.68 persons for men and 1.64 persons for women.

Occupational Distribution

THE number of unemployed actually declaring themselves to be manual workers or miscellaneous laborers constituted only 12 per cent of the total number, but a considerable number of the unemployed who reported themselves as factory workers, building workers,

etc., may properly be included in the same class. According to findings of the local surveys, manual laborers and unskilled workers, among them certain persons with the semblance of a trade, would constitute in the large cities approximately half of the unemployed. In the rural districts the proportion of workers without marked trade skill was still greater than in the towns, constituting as much as two-thirds of the total unemployed in southern Sweden and at least as great a proportion in the Province of Norrland.

In order to obtain an accurate idea of the real character of unemployment it was essential to take account of the extent to which it was the outcome of seasonal conditions, which should in view of the climatic conditions of Sweden be considered to some degree as normal phenomena. The unemployment census, however, permitted only the counting of the number of unemployed belonging in seasonal industries and not the reporting that their unemployment was due to seasonal conditions.

The statistics show that more than half (50.3 per cent) of the unemployed belonged to the seasonal occupations. For the greater number the time at which the census was taken was a more or less dead season. This is particularly the case with the workers in the country in northern Sweden, the greater number of whom are employed in agriculture, forestry, and the wood industry. It was impossible, however, to get an exact report on seasonal employment as a whole, but based on the findings in local inquiries and on certain other available information it seems possible to establish that in at least 35 per cent of the cases the unemployment had a seasonal character.

Physical and Psychological Conditions of Unemployed

AMONG the most important findings of the investigations was the distribution of the unemployed according to the quality of their work. Following the procedure adopted by England, the unemployed were divided into six groups based on the possibilities of the person's procuring work under normal conditions, account being taken not only of industrial skill and capacity for work but also of adaptability, good will, and the ability to meet competition when occasions of possible work presented themselves.

The percentages of unemployed in these six groups are given in Table 2:

TABLE 2.—DISTRIBUTION OF UNEMPLOYED ACCORDING TO CHARACTER OF WORKERS AND LOCALITY

Group	Large towns	Others towns	Country
	<i>Per cent</i>	<i>Per cent</i>	<i>Per cent</i>
Fully competent workers.....	24.4	48.9	56.4
Ordinary workers.....	28.4	15.3	15.1
Poor workers.....	23.3	9.3	7.5
Almost unemployable.....	7.9	7.1	5.8
Young persons without trades.....	13.3	12.5	9.9
Unclassified.....	2.7	6.9	5.3
Total.....	100.0	100.0	100.0

While the average-sized and small towns and the country districts, especially the country districts in southern and central Sweden,

showed almost similar conditions, the percentage distribution in the six groups in the large towns was quite different and from many points of view really alarming.

In a considerable number of cases the causes of the inferiority of these unemployed from the labor market viewpoint were physical infirmities or morbid symptoms sometimes of a psychic character. This physical deterioration was marked among about one-fifth of the unemployed in the large towns. A special supplementary inquiry among the unemployed of the large cities showed that approximately 10 per cent of them had been several times convicted for drunkenness—25 per cent if those having been convicted only once or twice are included. Five per cent had been prosecuted for vagrancy and about 12 per cent had been convicted of crime. Alongside of these social misdemeanors several cases of depravity or lack of personal or social competition were found. These various social and moral defects were notorious among 25 per cent of the unemployed. The proportionate figure would be increased to 35 per cent if isolated cases of drunkenness were included.

Table 2 shows that in comparison with the large cities the other towns and country districts were much more favorably situated so far as the character of the unemployed was concerned. It is clear, however, that even in these smaller towns and country districts there were large percentages of unemployed who should be classed as difficult to place.

Causes and Duration of Unemployment

THE percentages of unemployed classified by original causes of unemployment were:

	Per cent
Reduction of work.....	59.2
Cessation of work by employers.....	9.9
Voluntary cessation from work.....	6.9
Sickness.....	2.5
Military service.....	2.9
Labor disputes.....	.3
Other causes.....	1.1
Unemployed never having been employed.....	5.8
Unknown causes.....	11.4
Total.....	100.0

It was very difficult to obtain from the communes covered by the census accurate information as to the duration of unemployment, especially so in the case of a large number of unemployed who had experienced since their last regular work a number of periods of unemployment interspersed with periods of more or less provisional work. Under these conditions it was not possible to determine definitely the unemployment from the last regular work. Indeed, the unemployed themselves had frequently some difficulty in defining what should be understood by regular work and by provisional work.

The only means of arriving at figures slightly more comparable is to count together as the unemployed period all the partially unemployed periods indicated by the unemployed person as having succeeded the last so-called regular work. Table 3 is compiled on this basis:

TABLE 3.—PERCENTAGE DISTRIBUTION OF UNEMPLOYED BY DURATION OF UNEMPLOYMENT

Duration	Men	Women	Total
	<i>Per cent</i>	<i>Per cent</i>	<i>Per cent</i>
Under 3 months.....	19.4	19.6	19.4
3 to 6 months.....	15.2	17.2	15.3
6 to 9 months.....	12.4	10.7	12.3
9 to 12 months.....	4.2	4.6	4.2
1 to 2 years.....	11.4	8.4	11.4
2 to 3 years.....	5.9	4.1	5.8
Over 3 years.....	9.9	5.5	9.8
Unknown.....	21.6	29.9	21.8
Total.....	100.0	100.0	100.0

For persons in regard to whom the duration of unemployment could be somewhat more accurately ascertained, an average of 15.5 months of unemployment per individual was found, while the unemployment period for 70 per cent of the workers in seasonal industries did not exceed nine months.

Unemployed Threatened with Permanent Unemployment

IT WAS found that 16 per cent of the unemployed had been unemployed for at least two years and 10 per cent for over three years.

The largest number of unemployed having no work for long periods were among the manual laborers and unskilled workers. In Stockholm the special inquiry showed that one-fourth of the fully competent and ordinary workers and one-half of the poor workers and the barely employable who were not well-equipped for competition in the labor market had been unemployed more than two years. This fact, therefore, warrants the conclusion that in a large measure unemployment of long duration is due to the lack of aptitude for regular work. Local inquiries also showed that a large number of the permanently jobless should be employed a little more continuously on public aid works.

Through local investigations an effort was also made to ascertain in what measure persons declaring themselves unemployed on the date of census had procured work. So far as the seasonal trades were concerned it was found, as would be expected, that the greater number were again employed. In the towns, particularly where the seasonal industries do not play such an important part, it was found that at the date of the local inquiry about one-third of the unemployed in the large towns and approximately one-half of the unemployed in other towns had obtained work of varying duration.

Personal Resources of Unemployed

SPECIAL inquiries disclosed that in the large towns about 50 per cent of the unemployed single persons continued to reside with their families or other relatives. The percentage for other towns and the country was still higher. Unemployed adolescents in both towns and the country lived almost invariably with relatives.

About one-third of the married unemployed in large towns and only one-tenth in other localities had certain family resources resulting from the work of their wives and children. The very much higher proportion with such resources in the larger towns was due to the opportunities these towns offered to the wives of the workers outside of the home. No special data were secured from the country

districts on this point. On the other hand, according to the general census the wives of only 5 per cent of the married unemployed men had a trade or worked outside the home.

The census returns also showed that about 31 per cent of the unemployed had property of some kind, and that 12 per cent resided on their property and 19 per cent on the property of their relatives or their relatives in law. More than one-half of these properties, however, were of so restricted an area that the land cultivated was less than one-fourth of a hectare,² and approximately 13 per cent of the properties comprised about 2 hectares.

It was not possible to establish through the inquiry to what extent the individual unemployed had economized or benefited by pecuniary assistance on the part of relatives or friends. The census returns showed, however, that about 2 per cent of the unemployed had temporary work but of an extremely provisional character or insufficient to occupy them or to permit them to maintain themselves except in such an inadequate manner that they should be properly listed among the unemployed.

The organized unemployed belonging to some union that had an unemployment fund benefited from this, but the investigators were not able to establish the importance of this aid.

The Unemployed and Public Aid Works

THE census returns showed 12 per cent of the unemployed provided for through public aid works and 4 per cent receiving assistance in kind. The number of the unemployed having previously benefited under these two forms of public help were, respectively, 30 and 14 per cent.

The workers on public aid undertakings seem to have been recruited principally among manual workers or among unskilled workers. The greatest number employed on public aid works were from the larger towns, Stockholm in particular.

In general a substantial proportion, frequently more than half of those employed on public aid works at the time of the census, had previously had recourse to this mode of assistance and in many localities it seemed to be admitted that it was the only kind of work they were able to procure. A considerable number among them were quite old, in poor health, and manifestly employed on public works only to keep them from becoming a charge to the agencies for the assistance of indigents.

Conclusions

IN BRIEF, this investigation is said to show definitely that unemployment was very extensive, but that a part of it should in a large measure be regarded as seasonal; and that a substantial proportion of the remaining unemployment was due to the fact that many persons in the population are incapable of applying themselves to regular work and consequently can not be classified as unemployed in the proper sense of the word.

The inquiry throws light upon various aspects of the problem under investigation and the report recommends that the findings be carefully studied in the search for a remedy for the social plague which manifests itself in various ways and for various reasons under the form of unemployment.

One hectare = 2.47 acres.

WHOLESALE AND RETAIL PRICES

Retail Prices of Food in the United States

THE following tables are compiled from monthly reports of actual selling prices¹ received by the Bureau of Labor Statistics from retail dealers.

Table 1 shows for the United States retail prices of food September 15, 1927, and August 15 and September 15, 1928, as well as the percentage changes in the year and in the month. For example, the retail price per pound of hens was 35.4 cents on September 15, 1927; 36.8 cents on August 15, 1928; and 37.9 cents on September 15, 1928. These figures show increases of 7 per cent in the year and 3 per cent in the month.

The cost of various articles of food combined shows an increase of 2.4 per cent September 15, 1928, as compared with September 15, 1927, and an increase of 2.3 per cent September 15, 1928, as compared with August 15, 1928.

TABLE 1.—AVERAGE RETAIL PRICES OF SPECIFIED FOOD ARTICLES AND PER CENT OF INCREASE OR DECREASE, SEPTEMBER 15, 1928, COMPARED WITH AUGUST 15, 1928, AND SEPTEMBER 15, 1927

[Percentage changes of five-tenths of 1 per cent and over are given in whole numbers]

Article	Unit	Average retail price on—			Per cent of increase (+) or decrease (−) Sept. 15, 1928, compared with—	
		Sept. 15, 1927	Aug. 15, 1928	Sept. 15, 1928	Sept. 15, 1927	Aug. 15, 1928
		<i>Cents</i>	<i>Cents</i>	<i>Cents</i>		
Sirloin steak.....	Pound.....	43.8	51.0	51.8	+18	+2
Round steak.....	do.....	38.1	45.1	45.8	+20	+2
Rib roast.....	do.....	31.8	36.6	37.4	+18	+2
Chuck roast.....	do.....	24.0	29.6	30.4	+27	+3
Plate beef.....	do.....	15.5	19.6	20.6	+33	+5
Pork chops.....	do.....	40.7	39.9	44.3	+9	+11
Bacon.....	do.....	46.5	44.8	45.4	−2	+1
Ham.....	do.....	53.8	55.0	56.0	+4	+2
Lamb, leg of.....	do.....	38.5	40.2	40.3	+5	+0.2
Hens.....	do.....	35.4	36.8	37.9	+7	+3
Salmon, canned, red.....	do.....	33.9	34.2	33.3	−2	−3
Milk, fresh.....	Quart.....	14.1	14.1	14.2	+1	+1
Milk, evaporated.....	15-16 oz. can.....	11.6	11.2	11.3	−3	+1
Butter.....	Pound.....	53.4	55.4	57.6	+8	+4
Oleomargarine (all butter substitutes).....	do.....	27.8	27.3	27.4	−1	+0.4
Cheese.....	do.....	37.7	38.4	38.7	+3	+3
Lard.....	do.....	19.2	18.7	19.3	+1	+3
Vegetable lard substitute.....	do.....	25.1	24.8	24.9	−1	+0.4
Eggs, strictly fresh.....	Dozen.....	48.7	45.0	51.5	+6	+14
Bread.....	Pound.....	9.3	9.2	9.1	−2	−1
Flour.....	do.....	5.5	5.4	5.3	−4	−2
Corn meal.....	do.....	5.2	5.3	5.3	+2	0
Rolled oats.....	do.....	9.0	8.9	9.0	0	+1
Corn flakes.....	6-oz. pkg.....	9.7	9.5	9.5	−2	0
Wheat cereal.....	28-oz. pkg.....	25.5	25.6	25.6	+0.4	0

¹ In addition to monthly retail prices of food and coal, the bureau publishes the prices of gas and electricity from each of 51 cities for the dates for which these data are secured.

TABLE 1.—AVERAGE RETAIL PRICES OF SPECIFIED FOOD ARTICLES AND PER CENT OF INCREASE OR DECREASE, SEPTEMBER 15, 1928, COMPARED WITH AUGUST 15, 1928, AND SEPTEMBER 15, 1927—Continued

Article	Unit	Average retail price on—			Per cent of increase (+) or decrease (—) Sept. 15, 1928, compared with—	
		Sept. 15, 1927	Aug. 15, 1928	Sept. 15, 1928	Sept. 15, 1927	Aug. 15, 1928
		<i>Cents</i>	<i>Cents</i>	<i>Cents</i>		
Macaroni.....	Pound.....	20.1	19.8	19.8	-1	0
Rice.....	do.....	10.6	9.9	10.0	-6	+1
Beans, navy.....	do.....	9.6	12.6	12.7	+32	+1
Potatoes.....	do.....	3.2	2.2	2.2	-31	0
Onions.....	do.....	5.5	5.4	5.8	+5	+7
Cabbage.....	do.....	4.1	4.1	4.2	+2	+2
Beans, baked.....	No. 2 can.....	11.4	11.6	11.6	+2	0
Corn, canned.....	do.....	15.6	15.9	15.9	+2	0
Peas, canned.....	do.....	16.7	16.7	16.8	+1	+1
Tomatoes, canned.....	do.....	11.9	11.6	11.6	-3	0
Sugar.....	Pound.....	7.2	7.1	7.0	-3	-1
Tea.....	do.....	77.2	77.4	77.2	0	-0.3
Coffee.....	do.....	47.3	49.4	49.5	+5	+0.2
Prunes.....	do.....	15.2	13.8	13.8	-9	0
Raisins.....	do.....	14.3	13.5	13.0	-9	-4
Bananas.....	Dozen.....	33.5	31.6	32.7	-2	+3
Oranges.....	do.....	55.3	64.2	66.1	+20	+3
Weighted food index.....	.....				+2.4	+2.3

Table 2 shows for the United States average retail prices of specified food articles on September 15, 1913, and on September 15 of each year from 1922 to 1928, together with percentage changes in September of each of these specified years, compared with September, 1913. For example, the retail price per pound of plate beef was 12.3 cents in September, 1913; 12.6 cents in September, 1922; 13.1 cents in September, 1923; 13.2 cents in September, 1924; 13.9 cents in September, 1925; 14.5 cents in September, 1926; 15.5 cents in September, 1927; and 20.6 cents in September, 1928.

As compared with September, 1913, these figures show increases of 2 per cent in September, 1922; 7 per cent in September, 1923 and 1924; 13 per cent in September, 1925; 18 per cent in September, 1926; 26 per cent in September, 1927; and 67 per cent in September, 1928.

The cost of the various articles of food combined showed an increase of 54 per cent in September, 1928, as compared with September, 1913.

TABLE 2.—AVERAGE RETAIL PRICES OF SPECIFIED FOOD ARTICLES AND PER CENT OF INCREASE SEPTEMBER 15 OF CERTAIN SPECIFIED YEARS COMPARED WITH SEPTEMBER 15, 1913

[Percentage changes of five-tenths of 1 per cent and over are given in whole numbers]

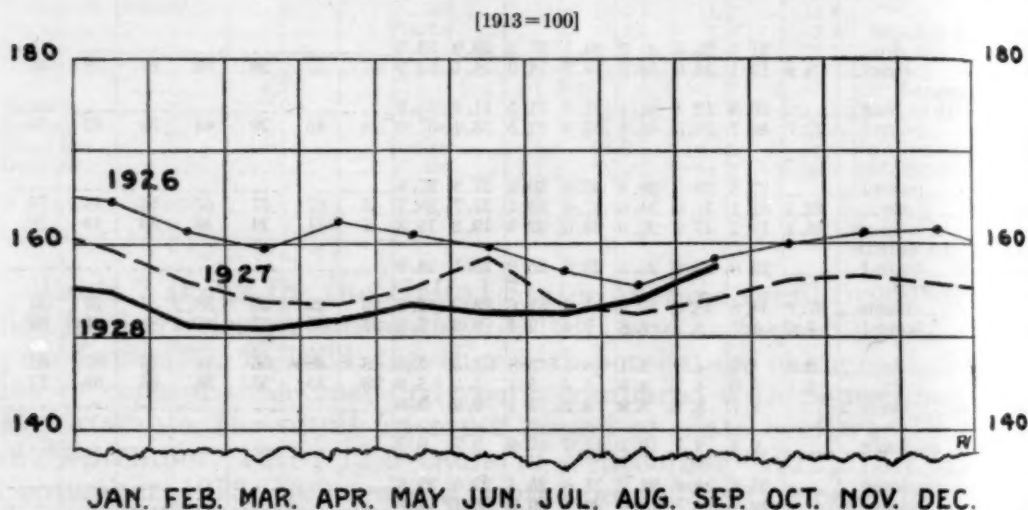
Article	Average retail price on Sept. 15—								Per cent of increase Sept. 15 of each specified year compared with Sept. 15, 1913							
	1913	1922	1923	1924	1925	1926	1927	1928	1922	1923	1924	1925	1926	1927	1928	
	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.								
Sirloin steak—pound—	26.3	38.7	41.1	40.2	41.6	41.9	43.8	51.8	47	56	53	58	59	67	97	
Round steak—do—	23.2	33.6	35.5	34.3	35.6	36.4	38.1	45.8	45	53	48	53	57	64	97	
Rib roast—do—	20.1	28.1	29.4	29.0	30.1	30.6	31.8	37.4	40	46	44	50	52	58	86	
Chuck roast—do—	16.4	20.0	21.0	20.9	22.0	22.7	24.0	30.4	22	28	27	34	38	46	85	
Plate beef—do—	12.3	2.6	13.1	13.2	13.9	14.5	15.5	20.6	2	7	7	13	18	26	67	
Pork chops—do—	22.8	36.4	36.7	35.8	40.4	42.5	40.7	44.3	60	61	57	77	86	79	94	
Bacon—do—	28.1	40.4	39.4	39.3	49.4	51.9	46.5	45.4	44	40	40	76	85	65	62	
Ham—do—	28.1	48.4	46.6	46.9	54.9	60.4	53.8	56.0	72	66	67	95	115	91	99	
Lamb, leg of—do—	18.7	35.9	37.5	36.8	38.5	39.1	38.5	40.3	92	101	97	106	109	106	116	
Hens—do—	21.5	34.9	35.0	35.3	36.6	37.8	35.4	37.9	62	63	64	70	76	65	76	
Salmon, canned, red—do—		31.7	31.3	31.3	34.1	37.2	33.9	33.3								
Milk, fresh—quart—	8.9	13.1	14.0	13.9	14.2	14.0	14.1	14.2	47	57	56	60	57	58	60	
Milk, evaporated—15-16 oz. can—		10.8	12.2	11.1	11.5	11.5	11.6	11.3								
Butter—pound—	37.7	46.7	55.0	48.5	55.8	52.5	53.4	57.6	24	46	29	48	39	42	53	
Oleomargarine (all butter substitutes)—pound—		27.3	28.5	29.8	30.6	30.2	27.8	27.4								
Cheese—do—	22.1	32.1	37.0	34.6	37.0	36.1	37.7	38.7	45	67	57	67	63	71	75	
Lard—do—	16.1	17.2	17.9	20.0	24.0	22.3	19.2	19.3	7	11	24	49	39	19	20	
Vegetable lard substitute—pound—		23.0	23.0	25.5	25.9	25.9	25.1	24.9								
Eggs, strictly fresh—dozen—	37.7	44.8	48.6	51.9	51.9	51.5	48.7	51.5	19	29	38	38	37	29	37	
Bread—pound—	5.6	8.7	8.7	8.8	9.4	9.4	9.3	9.1	55	55	57	68	68	66	63	
Flour—do—	3.3	4.9	4.5	5.1	6.1	5.8	5.5	5.3	48	36	55	85	76	67	61	
Cornmeal—do—	3.1	3.9	4.2	4.8	5.4	5.1	5.2	5.3	26	35	55	74	65	68	71	
Rolled oats—do—		8.7	8.8	8.9	9.2	9.1	9.0	9.0								
Corn flakes—8-oz. package—		9.8	9.7	10.1	11.0	10.9	9.7	9.5								
Wheat cereal—28-oz. package—		25.6	24.4	24.2	24.8	25.4	25.5	25.6								
Macaroni—pound—		19.9	19.7	19.6	20.4	20.2	20.1	19.8								
Rice—do—	8.7	9.6	9.5	10.3	11.3	11.7	10.6	10.0	10	9	18	30	34	22	15	
Beans, navy—do—		10.8	10.9	9.9	10.2	9.1	9.6	12.7								
Potatoes—do—	1.9	2.3	3.4	2.6	3.6	3.9	3.2	2.2	21	79	37	89	105	68	16	
Onions—do—		5.1	6.2	5.8	6.4	5.3	5.5	5.8								
Cabbage—do—		3.7	4.6	4.2	4.7	4.2	4.1	4.2								
Beans, baked—No. 2 can—		13.4	12.9	12.6	12.4	11.7	11.4	11.6								
Corn, canned—do—		15.3	15.5	16.0	18.1	16.4	15.6	15.9								
Peas, canned—do—		17.5	17.6	18.2	18.4	17.4	16.7	16.8								
Tomatoes, canned—No. 2 can—		13.1	12.9	13.4	13.5	11.8	11.9	11.6								
Sugar, granulated—pound—	5.7	7.9	9.6	8.6	7.0	7.0	7.2	7.0	39	68	51	23	23	26	23	
Tea—do—	54.5	68.2	69.7	71.0	75.8	77.0	77.2	77.2	25	28	30	39	41	42	42	
Coffee—do—	29.8	36.2	37.6	44.3	51.0	51.0	47.3	49.5	21	26	49	71	71	59	66	
Prunes—do—		20.9	18.8	17.4	17.3	17.1	15.2	13.8								
Raisins—do—		22.1	17.1	15.2	14.4	14.8	14.3	13.0								
Bananas—dozen—		34.0	37.8	35.2	34.6	34.4	33.5	32.7								
Oranges—do—		64.8	51.0	48.8	61.0	50.7	55.3	66.1								
All articles combined ¹									36.3	45.7	43.3	55.2	54.7	50.3	54.0	

¹ Beginning with January, 1921, index numbers showing the trend in the retail cost of food have been composed of the articles shown in Tables 1 and 2, weighted according to the consumption of the average family. From January, 1913, to December, 1920, the index numbers included the following articles: Sirloin steak, round steak, rib roast, chuck roast, plate beef, pork chops, bacon, ham, lard, hens, flour, corn meal, eggs, butter, milk, bread, potatoes, sugar, cheese, rice, coffee, and tea.

Index Numbers of Retail Prices of Food in the United States

IN TABLE 3 index numbers are given which show the changes in the retail prices of specified food articles, by years, for 1913 and 1920 to 1927,² and by months for 1927, and for January through September, 1928. These index numbers, or relative prices, are based on the year 1913 as 100 and are computed by dividing the average price of each commodity for each month and each year by the average price of that commodity for 1913. These figures must be used with caution. For example, the relative price of sirloin steak for the year 1926 was 162.6, which means that the average money price for the year 1926 was 62.6 per cent higher than the average money price for the year 1913. As compared with the relative price, 159.8 in 1925, the figures for 1926 show an increase of nearly three points, but an increase of 1.75 per cent in the year.

TREND OF RETAIL PRICES OF FOOD



In the last column of Table 3 are given index numbers showing changes in the retail cost of all articles of food combined. Since January, 1921, these index numbers have been computed from the average prices of the articles of food shown in Tables 1 and 2, weighted according to the average family consumption in 1918. (See March, 1921, issue, p. 25.) Although previous to January, 1921, the number of food articles has varied, these index numbers have been so computed as to be strictly comparable for the entire period. The index numbers based on the average for the year 1913 as 100 are 154.2 for August, 1928, and 157.8 for September, 1928.

The curve shown in the chart on this page pictures more readily to the eye the changes in the cost of the food budget than do the index numbers given in the table.

² For index numbers of each month, January, 1913, to December, 1926, see Bulletin No. 396, pp. 44-61; Bulletin No. 418, pp. 38-51; and Bulletin No. 445, pp. 36-49.

TABLE 3.—INDEX NUMBERS OF RETAIL PRICES OF PRINCIPAL ARTICLES OF FOOD, BY YEARS, 1913, 1920 TO 1927, AND BY MONTHS FOR 1927 AND JANUARY THROUGH SEPTEMBER, 1928

[Average for year 1913=100.0]

Year and month	Sirloin steak	Round steak	Rib roast	Chuck roast	Plate beef	Pork chops	Bacon	Ham	Hens	Milk	Butter	Cheese
1913.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1920.....	172.1	177.1	167.7	163.8	151.2	201.4	193.7	206.3	209.9	187.6	183.0	188.2
1921.....	152.8	154.3	147.0	132.5	118.2	166.2	158.2	181.4	186.4	164.0	135.0	153.9
1922.....	147.2	144.8	139.4	123.1	105.8	157.1	147.4	181.4	169.0	147.2	125.1	148.9
1923.....	153.9	150.2	143.4	126.3	106.6	144.8	144.8	169.1	164.3	155.1	144.7	167.0
1924.....	155.9	151.6	145.5	130.0	109.1	146.7	139.6	168.4	165.7	155.1	135.0	159.7
1925.....	159.8	155.6	149.5	135.0	114.1	174.3	173.0	195.5	171.8	157.3	143.1	166.1
1926.....	162.6	159.6	153.0	140.6	120.7	188.1	186.3	213.4	182.2	157.3	138.6	165.6
1927.....	167.7	166.4	158.1	148.1	127.3	175.2	174.8	204.5	173.2	158.4	145.2	170.1
1927: January.....	160.6	158.3	153.0	141.9	124.0	174.3	181.1	211.2	180.8	158.4	152.5	170.1
February.....	161.0	158.7	153.5	141.9	123.1	171.0	179.6	210.8	180.8	158.4	153.5	170.1
March.....	161.8	159.6	153.5	142.5	123.1	174.3	179.3	210.0	181.7	158.4	154.6	168.8
April.....	164.6	163.2	156.1	145.6	125.6	175.7	178.2	210.8	182.6	157.3	152.5	167.9
May.....	166.5	165.5	157.6	146.9	125.6	173.3	176.3	209.3	180.3	156.2	139.4	167.4
June.....	166.9	165.9	157.1	146.9	125.6	165.2	174.4	206.3	170.4	156.2	135.2	167.4
July.....	171.7	170.0	160.1	149.4	126.4	166.2	172.6	203.0	167.1	157.3	134.2	167.0
August.....	172.0	170.9	160.1	149.4	126.4	179.5	172.2	201.9	166.2	158.4	134.2	167.4
September.....	172.4	170.9	160.6	150.0	128.1	193.8	172.2	200.0	166.2	158.4	139.4	170.6
October.....	172.0	170.0	161.1	151.9	130.6	197.6	172.6	199.3	167.6	159.6	145.4	173.3
November.....	171.3	169.5	161.1	153.1	133.9	172.9	171.5	197.0	167.1	159.6	147.3	174.7
December.....	172.8	171.3	163.6	156.9	138.0	156.2	167.8	192.9	167.6	160.7	152.5	176.5
1928: January.....	174.8	173.1	165.2	158.8	142.1	149.0	165.2	192.2	172.8	160.7	150.9	177.4
February.....	176.4	174.4	167.2	160.6	144.6	140.5	161.9	190.3	174.6	160.7	147.0	177.4
March.....	176.8	175.3	167.2	161.3	146.3	136.2	159.3	187.7	174.6	159.6	149.6	174.2
April.....	178.3	177.6	168.7	163.1	147.9	149.0	158.9	188.1	177.0	158.4	143.9	172.9
May.....	181.5	181.2	172.2	166.3	150.4	168.6	159.6	190.3	177.0	158.4	142.6	172.4
June.....	186.6	186.5	175.3	172.5	152.9	165.7	160.0	192.2	174.2	157.3	140.7	172.4
July.....	195.7	196.9	181.8	180.6	157.9	177.6	162.6	198.5	172.3	158.4	141.8	173.3
August.....	200.8	202.2	184.8	185.0	162.0	190.0	165.9	204.5	172.8	158.4	144.7	173.8
September.....	203.9	205.4	188.9	190.0	170.2	211.0	168.1	208.2	177.9	159.6	150.4	175.1

Year and month	Lard	Eggs	Bread	Flour	Corn meal	Rice	Pota- toes	Sugar	Tea	Coffee	All arti- cles ¹
1913.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1920.....	186.7	197.4	205.4	245.5	216.7	200.0	370.6	352.7	134.7	157.7	203.4
1921.....	113.9	147.6	176.8	175.8	150.0	109.2	182.4	145.5	128.1	121.8	153.3
1922.....	107.6	128.7	155.4	154.5	130.0	109.2	164.7	132.7	125.2	121.1	141.6
1923.....	112.0	134.8	155.4	142.4	136.7	109.2	170.6	183.6	127.8	126.5	146.2
1924.....	120.3	138.6	157.1	148.5	156.7	116.1	158.8	167.3	131.4	145.3	145.9
1925.....	147.5	151.0	167.9	184.8	180.0	127.6	211.8	130.9	138.8	172.8	157.4
1926.....	138.6	140.6	167.9	181.8	170.0	133.3	288.2	125.5	141.0	171.1	160.6
1927.....	122.2	131.0	166.1	166.7	173.3	123.0	223.5	132.7	142.5	162.1	155.4
1927: January.....	126.6	162.0	167.9	169.7	170.0	126.4	235.3	136.4	142.5	168.5	159.3
February.....	124.1	128.1	167.9	169.7	170.0	124.1	223.5	136.4	142.3	167.4	156.0
March.....	122.8	102.6	167.9	166.7	170.0	124.1	217.6	134.5	142.6	165.4	153.8
April.....	120.9	98.3	167.9	166.7	170.0	123.0	217.6	132.7	142.6	163.8	153.6
May.....	120.3	97.4	167.9	166.7	170.0	121.8	264.7	132.7	142.3	161.7	155.4
June.....	119.0	97.1	166.1	166.7	173.3	123.0	352.9	132.7	142.1	160.7	158.5
July.....	119.0	107.0	166.1	166.7	173.3	123.0	247.1	134.5	142.5	159.7	153.4
August.....	119.6	121.7	166.1	169.7	173.3	123.0	200.0	132.7	142.6	159.1	152.4
September.....	121.5	141.2	166.1	166.7	173.3	121.8	188.2	130.9	141.9	158.7	154.0
October.....	124.1	164.1	166.1	166.7	173.3	120.7	176.5	130.9	142.5	159.1	156.1
November.....	123.4	178.8	166.1	163.6	173.3	119.5	176.5	130.9	142.5	160.4	156.5
December.....	121.5	172.8	164.3	163.6	173.3	118.4	176.5	129.1	142.1	161.4	155.9
1928: January.....	119.6	162.0	164.3	160.6	173.3	117.2	176.5	129.1	142.3	162.8	155.1
February.....	115.8	124.9	164.3	160.6	173.3	117.2	176.5	129.1	142.1	163.1	151.6
March.....	112.7	107.2	162.5	160.6	173.3	116.1	200.0	129.1	142.3	163.8	151.4
April.....	112.7	103.8	162.5	163.6	176.7	114.9	205.9	129.1	141.9	164.1	152.1
May.....	114.6	108.7	162.5	169.7	176.7	114.9	194.1	130.9	141.9	164.4	153.8
June.....	115.2	112.5	164.3	172.7	176.7	113.8	170.6	132.7	142.1	165.1	152.6
July.....	116.5	120.6	164.3	169.7	176.7	114.9	135.3	132.7	142.3	165.1	152.8
August.....	118.4	130.4	164.3	163.6	176.7	113.8	129.4	129.1	142.3	165.8	154.2
September.....	122.2	149.3	162.5	160.6	176.7	114.9	129.4	127.3	141.9	166.1	157.8

¹ 22 articles in 1913-1920; 43 articles in 1921-1928.

TABLE 4.—AVERAGE RETAIL PRICES OF THE PRINCIPAL ARTICLES OF FOOD IN 51 CITIES, SEPTEMBER 15, 1927, AND AUGUST 15 AND SEPTEMBER 15, 1928

[Exact comparisons of prices in different cities can not be made for some articles, particularly meats and vegetables, owing to differences in trade practices]

Article	Atlanta, Ga.			Baltimore, Md.			Birmingham, Ala.			Boston, Mass.			Bridgeport, Conn.		
	1927			1927			1927			1927			1927		
	Sept. 15, 1927	Aug. 15	Sept. 15	Sept. 15, 1927	Aug. 15	Sept. 15	Sept. 15, 1927	Aug. 15	Sept. 15	Sept. 15, 1927	Aug. 15	Sept. 15	Sept. 15, 1927	Aug. 15	Sept. 15
Sirloin steak.....pound..	Cts. 43.9	Cts. 47.3	Cts. 48.3	Cts. 41.4	Cts. 50.7	Cts. 51.3	Cts. 42.1	Cts. 52.0	Cts. 51.1	Cts. 71.6	Cts. 74.0	Cts. 78.6	Cts. 54.1	Cts. 60.5	Cts. 62.5
Round steak.....do.....	40.1	42.9	44.6	38.1	46.5	46.9	36.6	44.6	43.2	56.5	63.4	65.9	47.0	54.4	55.7
Rib roast.....do.....	32.8	36.1	36.4	31.2	36.6	36.9	29.8	35.2	34.8	40.9	45.3	47.2	40.2	43.6	44.9
Chuck roast.....do.....	25.2	29.5	29.5	23.1	30.4	30.7	24.0	29.6	29.0	30.5	34.5	35.3	30.9	35.8	37.7
Plate beef.....do.....	15.2	20.0	19.3	15.6	20.1	21.5	14.2	19.3	19.3	20.5	22.0	24.3	12.5	17.1	18.1
Pork chops.....do.....	37.9	37.1	39.8	39.4	40.5	44.2	36.9	35.4	38.7	44.8	41.9	48.6	43.6	41.8	49.1
Bacon, sliced.....do.....	44.0	43.1	44.2	42.1	40.0	40.5	47.0	43.1	42.9	45.5	41.8	43.3	50.3	50.6	50.9
Ham, sliced.....do.....	55.7	54.2	55.4	56.5	56.4	57.2	55.3	52.6	53.1	58.8	59.8	61.5	57.7	59.8	60.2
Lamb, leg of.....do.....	40.2	41.3	40.5	37.8	39.3	38.8	41.6	45.0	46.0	39.8	40.8	42.0	39.6	42.4	42.7
Hens.....do.....	34.5	33.5	35.0	37.2	38.6	40.2	31.6	30.4	32.0	39.0	40.6	41.2	39.8	40.2	41.2
Salmon, canned, red.....pound..	34.2	35.6	34.3	31.4	32.0	31.3	34.2	36.1	35.4	33.2	33.1	31.9	31.9	33.0	32.6
Milk, fresh.....quart..	18.0	16.5	16.5	14.0	14.0	14.0	16.7	18.7	18.7	15.5	15.2	15.8	16.0	16.0	16.0
Milk, evaporated.....15-16 oz. can..	13.5	13.4	13.5	11.3	11.1	11.0	12.8	11.6	12.0	12.1	11.6	11.7	11.6	11.6	11.6
Butter.....pound..	53.6	57.2	58.5	57.3	59.2	60.9	56.2	57.2	57.6	54.3	57.5	58.8	54.3	56.8	58.8
Oleomargarine (all butter substitutes).....pound..	26.2	26.4	26.5	27.1	27.4	27.7	32.5	31.5	31.8	28.1	28.3	28.2	27.8	26.0	26.2
Cheese.....do.....	36.8	35.5	36.7	36.4	37.0	37.5	36.7	37.6	38.2	38.9	40.4	40.7	40.9	43.3	43.4
Lard.....do.....	19.7	18.0	18.8	17.9	17.2	18.5	18.9	18.7	19.1	19.5	19.0	19.3	18.9	17.8	18.5
Vegetable lard substitute.....pound..	22.3	22.5	21.5	22.7	23.3	22.9	21.8	19.8	19.9	25.4	25.2	28.4	25.3	25.5	25.5
Eggs, strictly fresh.....dozen..	47.4	43.0	45.5	43.3	41.0	46.4	42.9	42.3	46.9	68.4	64.9	71.0	66.6	63.8	70.3
Bread.....pound..	10.8	10.8	10.8	9.9	9.6	9.6	10.3	10.0	10.0	8.5	8.6	8.6	8.8	8.8	8.8
Flour.....do.....	6.5	6.7	6.5	5.2	5.1	4.9	6.7	6.7	6.7	6.1	5.7	5.7	5.7	5.5	5.3
Corn meal.....do.....	4.1	4.3	4.3	4.2	4.0	4.1	4.2	4.3	4.2	6.7	6.9	6.9	7.8	7.5	7.2
Rollod oats.....do.....	9.4	9.1	9.1	8.2	8.1	8.2	10.1	9.6	9.9	9.1	8.9	8.9	8.4	8.7	8.6
Corn flakes.....8-oz. package..	9.8	9.7	9.9	9.1	8.6	8.6	10.6	10.0	10.1	9.9	9.3	9.4	9.7	9.2	9.4
Wheat cereal.....28-oz. package..	26.4	26.6	26.3	24.2	24.0	24.3	27.7	27.4	27.6	25.2	25.0	25.0	24.8	24.4	24.6
Macaroni.....pound..	21.7	21.3	21.0	18.9	18.8	19.2	18.8	18.6	18.6	22.4	21.1	21.3	22.7	22.3	22.1
Rice.....do.....	9.8	8.9	9.2	9.6	8.9	9.4	10.3	9.4	9.3	12.0	11.2	11.1	11.4	10.2	10.1
Beans, navy.....do.....	10.7	13.1	13.3	8.5	12.0	12.1	10.2	12.5	12.8	10.3	12.3	12.3	9.6	11.6	12.0
Potatoes.....do.....	4.2	3.2	3.3	3.1	1.8	1.9	4.8	3.3	3.4	3.2	2.2	2.2	3.0	2.1	2.1
Onions.....do.....	7.8	7.5	7.5	5.0	4.9	7.0	7.5	7.1	6.9	5.2	5.7	6.9	5.6	5.5	5.8
Cabbage.....do.....	4.9	4.9	4.6	3.5	3.7	4.6	5.4	5.0	5.0	5.1	5.4	5.2	4.8	4.7	4.8
Beans, baked.....No. 2 can..	11.3	11.0	11.0	10.4	10.9	10.7	11.3	11.4	11.0	13.1	12.6	12.4	11.7	11.6	11.6
Corn, canned.....do.....	18.2	17.6	17.5	14.4	15.2	15.4	16.0	16.5	16.8	17.7	17.4	17.6	18.1	19.0	19.0
Peas, canned.....do.....	20.1	19.2	19.2	14.8	14.7	15.1	20.2	19.6	20.0	19.9	19.6	19.9	20.7	21.3	21.2
Tomatoes, canned.....No. 2 can..	11.5	10.4	10.4	10.3	10.2	10.2	10.5	10.0	10.1	11.0	11.9	12.3	13.1	13.5	13.5
Sugar.....pound..	7.7	7.8	7.5	6.4	6.3	6.1	7.8	7.4	7.4	7.2	7.0	7.0	7.1	7.0	6.8
Tea.....do.....	102.6	105.9	105.9	73.6	72.3	73.5	96.0	98.4	97.4	72.9	72.4	72.3	60.9	61.0	61.0
Coffee.....do.....	48.5	49.6	49.8	42.7	45.2	44.8	51.4	50.8	51.3	51.1	53.9	53.6	45.9	47.3	47.9
Prunes.....do.....	16.4	14.9	14.9	13.0	11.5	11.9	18.5	16.3	16.5	15.4	12.8	12.8	15.8	14.8	15.4
Raisins.....do.....	16.3	15.0	14.3	12.9	12.6	12.4	14.7	14.5	14.1	13.2	12.4	12.2	14.3	13.3	13.0
Bananas.....dozen..	29.0	27.2	29.4	23.6	23.7	24.5	37.8	36.7	38.3	42.9	41.7	41.7	35.0	33.3	32.5
Oranges.....do.....	53.1	63.4	63.2	56.1	63.8	65.1	53.4	61.4	61.2	64.4	69.3	75.1	64.4	73.8	74.0

¹ The steak for which prices are here quoted is called "sirloin" in this city, but in most of the other cities included in this report it would be known as "porterhouse" steak.

TABLE 4.—AVERAGE RETAIL PRICES OF THE PRINCIPAL ARTICLES OF FOOD IN 51 CITIES, SEPTEMBER 15, 1927, AND AUGUST 15 AND SEPTEMBER 15, 1928—Continued

Article	Buffalo, N. Y.			Butte, Mont.			Charleston, S. C.			Chicago, Ill.			Cincinnati, Ohio		
	1927		1928	1927		1928	1927		1928	1927		1928	1927		1928
	Sept. 15, 1927	Aug. 15, 1927		Sept. 15, 1927	Aug. 15, 1927		Sept. 15, 1927	Aug. 15, 1927		Sept. 15, 1927	Aug. 15, 1927		Sept. 15, 1927	Aug. 15, 1927	
Sirloin steak.....pound	44.0	52.4	53.7	32.8	35.6	36.6	33.3	38.2	38.6	47.2	57.9	58.7	40.2	47.1	48.5
Round steak.....do	37.4	45.4	46.9	29.1	33.8	34.7	31.0	35.7	35.7	38.3	49.0	49.1	36.1	44.1	44.4
Rib roast.....do	31.9	36.4	37.6	28.7	31.8	31.7	26.7	31.1	31.1	35.8	41.4	42.8	31.1	36.2	37.0
Chuck roast.....do	25.2	30.9	32.0	20.2	24.1	24.7	20.8	25.2	25.0	26.6	33.5	36.5	22.8	28.1	29.0
Plate beef.....do	15.0	18.3	20.0	13.4	15.9	17.2	14.9	17.9	18.6	15.4	20.2	21.0	15.8	20.5	20.8
Pork chops.....do	45.9	43.6	49.7	38.0	37.5	39.5	34.7	34.9	35.7	42.6	41.1	45.7	40.3	38.9	45.9
Bacon, sliced.....do	42.0	41.4	41.7	54.6	50.8	51.3	40.4	37.9	37.8	50.9	47.8	49.4	40.6	39.2	40.4
Ham, sliced.....do	52.4	53.9	55.5	58.8	55.8	57.5	49.7	47.6	48.3	54.5	55.7	57.3	52.2	52.9	54.5
Lamb, leg of.....do	33.9	37.0	36.7	37.0	37.8	37.7	39.8	42.5	43.3	38.5	40.7	41.2	35.4	40.1	39.8
Hens.....do	36.1	37.9	40.4	33.2	35.4	34.9	35.7	37.2	36.7	36.1	38.8	41.0	33.5	38.2	39.4
Salmon, canned, red pound	31.8	31.8	31.1	31.4	31.6	32.2	31.8	32.2	29.5	35.9	36.2	36.1	33.0	34.7	31.7
Milk, fresh.....quart	13.0	13.0	13.0	14.0	14.0	14.0	19.0	18.7	18.7	14.0	14.0	14.0	13.3	14.0	14.0
Milk, evaporated 15-16 oz. can	11.3	10.9	11.1	11.1	10.6	10.5	11.8	11.5	11.5	11.2	10.9	11.1	11.3	11.0	11.2
Butter.....pound	54.1	55.0	58.0	52.0	54.1	55.8	49.5	52.2	55.6	52.7	54.1	56.1	51.1	56.5	59.1
Oleomargarine (all butter substitutes) pound	27.8	27.3	27.5				29.2	28.7	28.7	27.1	26.8	26.7	28.0	27.8	28.2
Cheese.....do	38.7	39.4	39.9	36.1	38.8	38.2	34.4	35.8	35.4	42.0	43.4	43.3	37.4	40.2	40.1
Lard.....do	18.3	17.9	18.4	23.4	21.9	22.0	20.6	19.0	18.7	19.4	19.0	19.5	18.1	17.6	19.1
Vegetable lard substitute pound	25.8	25.6	25.7	30.4	30.3	30.3	21.6	21.2	21.3	26.5	26.2	26.2	26.1	25.8	25.7
Eggs, strictly fresh dozen	51.1	46.8	52.4	50.6	47.4	49.5	48.2	42.4	50.1	46.0	45.9	50.6	45.9	41.9	48.2
Bread.....pound	8.7	8.7	8.7	9.8	9.8	9.8	10.9	11.0	11.0	9.9	9.9	9.9	8.9	8.6	8.5
Flour.....do	5.0	4.9	4.7	5.4	5.6	5.2	6.8	6.9	6.8	5.1	4.7	4.6	5.8	5.8	5.6
Corn meal.....do	5.2	5.1	5.0	6.0	6.3	6.2	4.0	3.9	3.9	6.4	7.2	7.0	4.5	4.6	4.6
Rollod oats.....do	8.7	8.9	8.7	7.5	8.3	7.8	9.5	9.4	9.2	8.6	8.4	8.4	8.8	8.9	9.0
Corn flakes 8-oz. package	9.0	9.0	9.1	10.7	10.6	10.5	10.3	9.8	10.2	9.5	9.3	9.2	9.4	9.4	9.6
Wheat cereal 28-oz. package	24.5	24.8	25.0	28.5	28.9	28.1	25.8	26.0	25.6	25.2	25.1	25.7	25.1	25.0	24.9
Macaroni.....pound	21.2	21.2	21.3	19.5	20.0	19.5	18.7	18.5	18.5	19.1	19.0	19.1	18.3	18.4	18.1
Rice.....do	10.1	9.7	9.9	11.0	11.3	11.3	7.2	6.5	6.8	10.8	10.5	10.5	9.7	10.0	10.0
Beans, navy.....do	9.0	13.2	12.6	10.1	11.3	11.4	9.8	13.4	13.4	9.6	12.7	13.0	8.7	13.2	13.1
Potatoes.....do	2.6	1.9	2.0	2.1	2.3	1.9	3.6	1.8	2.3	3.2	2.4	2.3	3.3	2.6	2.4
Onions.....do	6.0	6.1	6.6	4.8	5.3	4.8	6.5	6.3	6.6	5.5	5.6	5.7	4.7	5.0	5.6
Cabbage.....do	3.6	4.1	3.8	3.9	5.8	4.0	4.4	4.7	5.2	4.0	4.0	4.0	4.1	3.7	4.4
Beans, baked No. 2 can	9.9	10.3	10.1	13.3	13.8	13.8	10.0	10.5	10.4	12.8	12.9	12.9	10.6	10.7	10.7
Corn, canned.....do	15.0	15.6	15.8	14.6	15.0	14.8	14.8	14.5	15.7	16.1	16.1	16.1	15.2	15.5	15.2
Peas, canned.....do	15.6	15.4	16.1	13.8	14.5	13.9	16.5	16.2	16.2	16.6	17.2	17.2	16.6	17.6	16.9
Tomatoes, canned No. 2 can	13.0	13.0	12.6	12.8	13.5	13.3	9.9	9.8	9.8	13.9	13.6	13.6	11.7	11.6	11.9
Sugar.....pound	6.9	6.8	6.7	8.6	8.5	8.3	6.8	6.5	6.6	7.1	6.9	6.9	7.5	7.3	7.3
Tea.....do	67.1	68.1	68.1	82.8	83.1	82.0	82.4	82.8	81.5	72.0	69.2	69.2	75.5	79.7	79.8
Coffee.....do	45.6	46.1	46.8	54.0	55.9	55.5	43.1	45.2	45.8	47.1	47.7	47.7	42.5	45.1	45.4
Prunes.....do	14.4	13.8	13.7	15.0	15.0	14.7	13.5	11.1	11.1	17.3	15.4	15.5	15.2	13.4	13.7
Raisins.....do	13.7	12.9	12.6	15.1	14.5	14.4	14.4	12.4	12.0	15.0	14.3	13.8	14.6	14.3	13.9
Bananas.....dozen	41.2	36.1	37.4	11.7	11.4	11.8	25.6	23.3	25.6	39.8	36.6	38.3	36.1	35.6	39.2
Oranges.....do	60.6	63.9	66.6	53.5	63.0	67.5	46.9	63.3	67.0	63.0	62.2	67.2	52.2	63.5	64.5

* Per pound.

TABLE 4.—AVERAGE RETAIL PRICES OF THE PRINCIPAL ARTICLES OF FOOD IN 51 CITIES, SEPTEMBER 15, 1927, AND AUGUST 15 AND SEPTEMBER 15, 1928—Continued

Article	Cleveland, Ohio			Columbus, Ohio			Dallas, Tex.			Denver, Colo.			Detroit, Mich.		
	Sept. 15, 1927	1928		Sept. 15, 1927	1928		Sept. 15, 1927	1928		Sept. 15, 1927	1928		Sept. 15, 1927	1928	
		Aug. 15	Sept. 15		Aug. 15	Sept. 15		Aug. 15	Sept. 15		Aug. 15	Sept. 15		Aug. 15	Sept. 15
Sirloin steak—pound..	Cts. 42.4	Cts. 53.1	Cts. 50.9	Cts. 41.9	Cts. 48.9	Cts. 50.7	Cts. 36.9	Cts. 43.6	Cts. 43.6	Cts. 35.5	Cts. 43.8	Cts. 43.8	Cts. 44.8	Cts. 53.5	Cts. 53.7
Round steak—do....	36.3	46.3	45.5	37.6	44.5	44.3	34.2	40.6	41.3	32.0	39.7	39.7	37.6	44.4	45.2
Rib roast—do.....	30.3	36.4	35.9	32.3	37.3	37.9	27.9	35.0	34.9	25.3	32.8	32.9	32.8	38.5	38.6
Chuck roast—do....	24.9	32.0	31.2	26.5	31.5	33.0	23.9	28.4	28.8	20.7	27.4	27.5	25.1	31.3	31.7
Plate beef—do.....	14.4	19.8	20.7	16.8	22.3	22.4	18.5	22.1	22.3	12.2	16.0	16.6	15.3	20.1	20.6
Pork chops—do....	43.5	42.4	47.9	37.7	37.7	42.4	37.4	37.7	38.4	37.4	38.5	43.2	44.8	44.2	49.0
Bacon, sliced—do...	45.1	44.5	44.7	48.2	46.4	46.8	47.0	43.4	45.2	47.3	44.7	44.5	48.5	46.4	47.2
Ham, sliced—do....	53.3	57.7	58.0	51.8	53.8	55.4	56.2	55.7	56.8	51.6	54.0	54.8	55.8	59.7	60.8
Lamb, leg of—do....	37.4	39.8	39.8	44.2	45.5	46.7	43.4	47.0	45.3	36.8	38.3	36.8	38.9	41.2	41.2
Hens—do.....	35.1	37.5	39.9	35.4	39.0	38.2	30.7	33.0	32.4	29.6	31.1	30.6	36.7	38.7	40.6
Salmon, canned, red—pound..	34.3	33.6	32.5	35.9	38.1	37.2	37.2	37.7	37.4	34.5	34.9	34.2	35.0	32.8	32.6
Milk, fresh—quart..	14.0	13.3	13.3	12.0	11.0	11.0	13.0	12.3	13.0	12.0	12.0	12.0	14.0	14.0	14.0
Milk, evaporated—15-16 oz. can..	11.4	11.2	11.3	11.6	11.2	11.4	13.1	13.3	13.4	10.7	10.4	10.6	11.4	10.8	11.0
Butter—pound.....	57.1	58.8	60.3	53.4	55.1	57.2	52.1	56.9	58.3	48.3	49.5	52.6	55.3	54.9	57.0
Oleomargarine (all butter substitutes)—pound..	29.3	28.6	28.7	28.0	27.1	27.0	30.6	28.3	29.2	24.6	24.5	24.6	26.8	25.7	25.4
Cheese—do.....	38.4	40.0	40.4	36.9	37.6	37.5	38.9	38.5	38.0	37.9	40.0	40.5	39.4	39.7	40.3
Lard—do.....	20.6	20.2	20.5	16.7	15.9	17.3	23.3	21.5	21.7	19.1	18.6	19.3	19.4	18.5	19.0
Vegetable lard substitute—pound..	26.8	26.8	26.6	26.2	27.5	27.8	23.4	24.2	24.1	22.4	21.7	22.2	26.8	26.4	26.3
Eggs, strictly fresh—dozen.....	52.8	49.7	53.1	40.4	40.1	42.7	43.0	38.1	43.3	40.7	38.7	42.9	47.8	46.6	50.2
Bread—pound.....	7.7	7.8	7.8	7.7	7.6	7.8	9.5	9.3	9.3	8.0	8.1	7.9	8.5	8.2	8.1
Flour—do.....	5.6	5.7	5.6	5.3	5.2	5.1	5.5	5.6	5.3	4.3	4.2	4.1	5.4	5.2	4.9
Corn meal—do.....	5.6	5.9	5.7	4.1	4.4	4.4	4.5	4.8	4.8	4.4	4.5	4.5	6.0	6.1	6.1
Rolled oats—do....	9.4	9.2	9.3	9.2	9.2	9.1	10.3	10.2	10.2	7.6	7.6	7.5	9.5	9.1	9.4
Corn flakes—do....	9.8	10.0	10.0	9.8	9.8	9.8	10.6	10.2	10.2	9.8	9.5	9.5	9.8	9.2	9.4
Wheat cereal—do....	25.7	25.9	25.6	26.1	27.1	26.7	27.2	27.6	27.6	24.8	24.8	24.5	25.7	25.4	25.4
Macaroni—pound....	21.5	21.2	20.9	21.0	20.4	20.4	21.5	21.8	21.8	19.7	19.4	19.4	22.1	21.8	21.6
Rice—do.....	10.9	10.3	10.1	12.1	11.8	11.6	11.7	11.9	11.8	9.8	9.0	9.2	11.8	11.1	11.2
Beans, navy—do....	8.8	12.1	12.4	8.8	13.9	14.1	11.2	13.1	12.8	10.7	12.3	12.2	9.1	13.1	12.8
Potatoes—do.....	3.4	2.2	2.3	3.3	2.1	2.2	5.0	4.2	4.4	2.5	1.6	1.4	2.9	1.9	1.8
Onions—do.....	5.0	5.6	6.0	6.1	6.4	7.0	7.4	5.6	6.7	4.8	4.8	4.6	4.7	4.8	5.5
Cabbage—do.....	4.6	4.6	4.9	4.2	3.9	4.6	6.1	5.5	5.4	2.4	2.3	2.1	3.5	4.3	4.0
Beans, baked—do....	13.1	12.4	12.4	12.6	11.7	11.8	13.0	12.1	12.2	10.9	11.8	11.7	11.3	11.5	11.5
No. 2 can—do....	16.6	17.4	17.1	13.9	14.8	14.5	18.4	18.4	19.2	13.9	14.1	14.0	16.4	15.7	15.6
Corn, canned—do....	18.2	17.4	17.5	14.8	14.9	14.8	21.4	21.5	22.3	15.2	15.0	15.0	17.2	16.1	15.7
Peas, canned—do....	18.2	17.4	17.5	14.8	14.9	14.8	21.4	21.5	22.3	15.2	15.0	15.0	17.2	16.1	15.7
Tomatoes, canned—do....	14.1	14.0	13.9	13.3	11.9	11.9	12.6	12.1	11.9	11.9	12.0	11.9	12.7	12.0	11.9
No. 2 can—do....	7.4	7.6	7.6	7.8	7.6	7.6	8.0	7.6	7.7	7.8	7.7	7.6	7.5	7.3	7.2
Sugar—pound.....	81.8	81.0	79.4	88.0	86.1	86.2	107.1	104.4	104.8	68.0	70.0	70.0	74.5	76.1	75.0
Tea—do.....	49.9	52.5	51.9	47.9	49.3	49.3	57.1	58.3	58.9	48.9	50.2	50.0	47.8	49.0	49.9
Coffee—do.....	49.9	52.5	51.9	47.9	49.3	49.3	57.1	58.3	58.9	48.9	50.2	50.0	47.8	49.0	49.9
Prunes—do.....	15.3	13.6	13.7	16.6	15.1	15.1	21.1	18.4	18.4	14.8	15.0	14.8	16.7	14.6	14.6
Raisins—do.....	14.8	13.7	13.6	14.5	13.7	13.1	16.3	15.0	14.2	14.0	12.3	12.2	14.8	13.5	12.5
Bananas—dozen....	10.3	9.4	9.3	38.6	33.0	37.0	35.0	40.0	41.7	10.3	9.5	9.7	35.0	30.8	33.0
Oranges—do.....	59.8	68.1	69.7	54.0	65.8	63.8	54.7	61.6	62.4	48.5	57.8	60.1	60.1	66.4	70.7

^a Per pound.

TABLE 4.—AVERAGE RETAIL PRICES OF THE PRINCIPAL ARTICLES OF FOOD IN 51 CITIES, SEPTEMBER 15, 1927, AND AUGUST 15 AND SEPTEMBER 15, 1928—Continued

Article	Fall River, Mass.			Houston, Tex.			Indianapolis, Ind.			Jacksonville, Fla.			Kansas City, Mo.		
	1928			1928			1928			1928			1928		
	Sept. 15, 1927	Aug. 15	Sept. 15	Sept. 15, 1927	Aug. 15	Sept. 15	Sept. 15, 1927	Aug. 15	Sept. 15	Sept. 15, 1927	Aug. 15	Sept. 15	Sept. 15, 1927	Aug. 15	Sept. 15
Sirloin steak...pound..	Cts. 65.3	Cts. 75.2	Cts. 78.4	Cts. 34.6	Cts. 38.0	Cts. 39.3	Cts. 41.3	Cts. 49.8	Cts. 50.3	Cts. 35.4	Cts. 40.0	Cts. 40.8	Cts. 39.0	Cts. 48.2	Cts. 48.3
Round steak.....do....	49.4	59.4	60.5	33.5	37.5	38.0	38.6	47.3	48.2	31.3	34.6	35.1	34.2	42.7	43.8
Rib roast.....do.....	33.6	41.5	40.8	27.3	30.0	30.7	30.8	36.5	36.0	27.1	30.5	31.3	27.4	33.5	34.8
Chuck roast.....do.....	25.3	31.5	33.1	21.3	24.6	24.8	25.3	32.0	31.9	20.1	23.3	24.3	20.5	27.0	27.4
Plate beef.....do.....	15.0	19.4	21.0	18.0	20.0	20.8	16.1	22.2	22.0	12.8	15.3	16.2	14.5	19.2	20.0
Pork chops.....do.....	39.5	39.5	41.7	35.5	34.0	37.7	40.8	42.9	45.0	33.3	31.8	34.2	40.5	39.0	44.3
Bacon, sliced.....do.....	43.1	41.7	42.5	46.6	41.0	41.0	42.3	43.2	44.0	42.1	38.3	38.6	45.1	44.7	45.0
Ham, sliced.....do.....	52.9	51.5	52.8	50.8	48.0	48.5	52.7	55.0	56.3	49.5	50.0	49.6	51.7	54.2	54.9
Lamb, leg of.....do.....	41.5	42.5	42.9	34.2	34.0	33.8	39.0	42.0	42.0	38.0	40.0	40.8	35.3	37.5	37.6
Hens.....do.....	43.7	45.6	45.8	34.6	31.9	37.4	36.6	40.3	40.0	34.0	31.3	33.1	29.8	32.2	33.1
Salmon, canned, red															
pound.....	34.8	36.1	35.4	32.6	32.2	31.8	34.0	33.4	34.0	33.9	33.6	33.5	35.8	35.4	35.7
Milk, fresh.....quart..	15.0	14.7	14.7	15.6	15.0	15.0	12.0	12.0	12.0	20.3	20.3	20.3	13.0	13.0	13.0
Milk, evaporated															
15-16 oz. can.....	12.8	12.3	12.5	11.6	10.8	11.1	10.8	10.7	10.8	11.9	11.3	11.5	11.8	11.2	11.6
Butter.....pound.....	52.6	56.7	57.7	49.2	52.1	56.1	52.2	54.8	57.3	53.3	55.2	57.4	51.4	52.6	55.3
Oleomargarine (all															
butter substitutes)															
pound.....	30.8	26.0	26.0	27.6	25.5	25.2	29.2	29.5	29.2	30.3	30.3	30.0	25.5	25.3	25.7
Cheese.....do.....	40.4	41.9	41.9	34.4	33.9	33.9	37.7	41.0	41.0	35.7	35.8	35.6	37.1	37.3	38.0
Lard.....do.....	18.8	18.0	19.3	21.3	19.2	19.5	17.4	17.1	18.0	21.3	19.4	19.2	19.7	19.0	19.5
Vegetable lard substitute															
pound.....	20.7	27.1	27.1	17.8	15.5	15.7	27.4	26.6	26.6	22.9	21.3	22.2	27.6	25.8	25.8
Eggs, strictly fresh															
dozen.....	68.5	62.7	67.5	41.5	37.4	43.3	37.3	38.7	44.3	53.1	47.2	56.2	40.1	38.0	42.6
Bread.....pound.....	9.1	8.9	8.8	8.5	8.2	8.2	8.1	7.9	7.9	10.9	10.1	10.2	9.6	9.6	9.7
Flour.....do.....	5.6	5.8	5.8	5.1	5.2	5.0	5.5	5.3	5.3	6.6	6.5	6.3	5.1	5.0	4.9
Corn meal.....do.....	6.8	7.1	7.1	4.5	4.2	4.2	4.2	4.1	4.1	4.3	4.3	4.4	4.9	5.4	5.4
Rolled oats.....do.....	9.4	9.5	9.7	8.9	8.4	8.5	8.3	8.8	8.9	9.6	9.2	9.4	9.1	9.1	9.2
Corn flakes															
8-oz. package.....	10.0	9.8	9.8	9.2	8.4	8.6	9.3	9.3	9.3	9.9	9.6	9.5	10.0	9.7	9.7
Wheat cereal															
28-oz. package.....	25.0	25.3	25.3	25.0	25.1	25.2	25.6	25.7	25.7	24.4	24.0	25.7	26.9	26.9	27.2
Macaroni.....pound.....	24.2	22.6	23.4	18.6	18.2	18.2	19.6	19.3	19.3	19.4	18.6	19.7	19.9	20.2	20.2
Rice.....do.....	11.1	10.7	11.2	8.9	7.5	7.3	10.6	11.2	11.3	9.4	8.0	7.4	10.1	9.2	9.7
Beans, navy.....do.....	10.8	12.4	12.7	10.2	12.7	12.5	8.7	14.2	14.2	9.3	12.2	12.4	9.6	13.1	13.1
Potatoes.....do.....	2.9	1.8	1.8	4.7	4.0	3.7	3.0	2.1	2.1	4.4	2.9	3.2	2.2	1.3	1.4
Onions.....do.....	5.5	6.1	7.2	5.9	4.6	4.9	6.3	5.7	6.9	7.2	7.3	7.2	6.0	5.5	6.0
Cabbage.....do.....	4.5	4.8	6.1	5.5	4.9	4.8	4.5	3.4	3.8	4.6	4.8	4.7	4.3	2.4	3.6
Beans, baked															
No. 2 can.....	11.5	12.2	12.4	11.0	10.6	11.1	10.3	10.8	10.2	10.8	10.4	10.5	12.4	12.2	12.1
Corn, canned.....do.....	16.3	17.2	17.3	14.1	14.1	14.3	13.8	14.0	14.0	17.8	17.7	17.2	14.3	14.9	14.7
Peas, canned.....do.....	18.1	19.5	19.6	13.3	14.3	14.7	13.6	15.2	14.5	18.1	17.4	16.4	14.9	15.2	15.2
Tomatoes, canned															
do.....	13.2	12.3	12.3	10.5	9.8	9.8	12.6	12.0	12.3	9.8	9.8	9.9	11.4	11.1	11.1
Sugar.....pound.....	7.2	7.1	7.0	6.9	7.0	6.9	7.6	7.6	7.5	7.5	7.2	7.3	7.5	7.5	7.5
Tea.....do.....	63.8	59.6	59.2	84.8	83.3	84.4	85.3	85.8	86.3	97.7	98.9	96.7	90.2	93.2	93.4
Coffee.....do.....	48.8	50.6	50.5	40.5	43.3	43.5	47.5	48.7	48.2	47.3	48.1	49.3	48.5	52.2	52.4
Prunes.....do.....	14.5	13.4	13.3	14.5	13.0	13.3	17.9	17.2	17.0	16.4	16.1	15.5	15.5	14.6	14.5
Raisins.....do.....	13.9	13.3	12.8	13.9	12.9	11.7	15.2	14.7	14.5	15.3	14.5	14.1	14.8	14.6	12.9
Bananas.....dozen.....	9.6	8.3	8.8	26.2	25.4	26.2	31.6	30.6	31.7	28.3	26.7	27.1	10.0	10.1	10.3
Oranges.....do.....	54.6	69.3	72.8	39.1	50.7	51.8	51.3	62.7	62.6	60.0	104.0	102.5	49.6	63.2	63.7

¹ Per pound.² The steak for which prices are here quoted is called "rump" in this city, but in most of the other cities included in this report it would be known as "porterhouse" steak.

TABLE 4.—AVERAGE RETAIL PRICES OF THE PRINCIPAL ARTICLES OF FOOD IN 51 CITIES, SEPTEMBER 15, 1927, AND AUGUST 15 AND SEPTEMBER 15, 1928—Continued

Article	Little Rock, Ark.			Los Angeles, Calif.			Louisville, Ky.			Manchester, N. H.			Memphis, Tenn.		
	Sept. 15, 1927	1928		Sept. 15, 1927	1928		Sept. 15, 1927	1928		Sept. 15, 1927	1928		Sept. 15, 1927	1928	
		Aug. 15	Sept. 15		Aug. 15	Sept. 15		Aug. 15	Sept. 15		Aug. 15	Sept. 15		Aug. 15	Sept. 15
Sirloin steak.....pound..	Cts. 37.3	Cts. 45.0	Cts. 45.8	Cts. 39.0	Cts. 42.6	Cts. 45.4	Cts. 37.2	Cts. 46.9	Cts. 46.5	Cts. 160.0	Cts. 170.4	Cts. 169.9	Cts. 39.3	Cts. 48.1	Cts. 49.0
Round steak.....do.....	35.4	40.4	40.2	31.6	35.1	37.3	34.6	41.9	42.3	46.9	54.9	56.6	36.4	44.2	44.8
Rib roast.....do.....	30.0	34.5	36.1	31.2	33.9	35.6	27.1	33.9	33.8	29.9	36.2	37.1	28.4	33.7	34.7
Chuck roast.....do.....	22.8	27.9	28.1	20.7	24.7	26.6	21.3	27.7	27.0	24.6	30.8	32.4	22.0	29.1	29.0
Plate beef.....do.....	17.8	20.5	21.2	14.0	16.8	19.1	17.3	21.3	21.7	17.5	22.7	24.0	17.6	21.8	22.7
Pork chops.....do.....	35.3	34.6	38.0	47.6	45.6	50.3	37.1	37.2	43.6	40.8	38.5	43.3	34.9	34.8	38.2
Bacon, sliced.....do.....	47.7	44.3	46.0	54.4	52.4	53.2	47.7	44.6	45.6	38.7	38.5	39.1	41.2	37.0	37.7
Ham, sliced.....do.....	49.6	52.2	53.5	68.1	70.0	72.4	50.0	51.5	53.5	45.1	46.8	48.1	52.8	52.7	53.5
Lamb, leg of.....do.....	41.4	42.0	42.8	37.4	37.5	38.2	41.3	38.6	38.6	38.3	38.9	40.4	38.0	38.0	38.0
Hens.....do.....	28.4	29.4	30.3	40.7	42.0	44.7	32.9	35.7	35.4	41.9	42.6	42.9	30.0	29.9	31.3
Salmon, canned, red.....pound..	32.8	35.2	33.5	32.3	31.6	31.1	32.4	35.2	33.3	34.1	34.0	33.0	33.8	33.4	33.4
Milk, fresh.....quart..	15.0	14.0	14.0	15.0	15.0	15.0	12.0	12.0	12.8	14.8	15.0	15.0	15.0	15.0	15.0
Milk, evaporated.....15-16 oz. can..	12.0	11.9	11.8	10.2	9.9	9.9	12.0	11.8	11.9	12.9	12.7	12.7	11.6	11.4	11.4
Butter.....pound..	50.9	54.5	55.5	54.9	56.0	60.0	52.4	56.1	58.9	54.2	57.0	59.0	52.4	54.8	56.6
Oleomargarine (all butter substitutes).....pound..	28.2	27.3	26.8	26.2	25.3	25.3	27.4	27.3	27.5	25.8	28.1	28.1	25.6	24.4	24.4
Cheese.....do.....	37.2	37.2	38.4	38.3	38.4	38.6	37.5	37.9	38.5	36.9	39.4	38.9	36.8	35.8	36.4
Lard.....do.....	21.5	20.8	20.5	19.7	20.5	20.8	18.6	18.4	19.1	18.5	18.4	18.4	16.9	16.9	17.1
Vegetable lard substitute.....pound..	20.5	19.4	20.3	24.8	24.3	23.6	28.6	27.4	27.3	26.0	25.6	25.9	21.8	20.9	21.0
Eggs, strictly fresh.....dozen..	42.5	41.7	44.4	47.1	45.0	51.5	42.1	39.0	43.1	63.2	59.5	64.6	39.2	39.8	41.4
Bread.....pound..	9.2	9.3	9.3	8.5	8.9	8.7	9.2	9.2	9.1	8.7	8.7	8.7	9.5	9.5	9.5
Flour.....do.....	6.0	6.1	6.0	5.2	5.3	5.1	6.0	6.1	6.1	5.8	5.7	5.4	6.1	6.1	6.0
Corn meal.....do.....	4.0	4.2	4.2	5.5	5.8	5.8	4.2	4.2	4.2	5.4	5.3	5.3	4.1	3.8	3.8
Rolled oats.....do.....	10.2	10.2	10.3	10.0	10.1	10.0	8.5	8.6	8.6	9.2	8.9	8.9	9.0	8.7	8.8
Corn flakes.....8-oz. package..	10.2	9.8	9.8	9.4	9.4	9.4	9.6	9.5	9.5	9.6	9.2	9.3	9.8	9.8	9.8
Wheat cereal.....28-oz. package..	26.4	27.1	26.8	24.9	25.0	25.0	25.1	26.7	27.4	25.9	25.4	25.6	25.8	25.8	25.8
Macaroni.....pound..	20.2	20.1	20.5	18.5	18.1	18.2	18.9	18.9	18.9	23.8	23.5	23.1	19.4	19.5	19.7
Rice.....do.....	8.9	7.7	8.0	10.0	10.1	10.1	11.6	11.0	10.9	10.0	9.0	8.7	8.9	8.0	7.9
Beans, navy.....do.....	9.3	12.5	13.0	9.9	12.1	11.8	8.9	13.0	13.3	9.2	12.9	12.9	9.3	12.6	12.5
Potatoes.....do.....	3.9	2.3	2.4	3.4	2.3	2.6	2.9	1.6	1.7	3.0	1.9	1.9	3.8	2.7	2.9
Onions.....do.....	6.3	5.0	6.3	5.2	4.2	4.7	6.1	4.6	5.1	4.9	5.7	5.8	5.1	4.6	5.0
Cabbage.....do.....	4.3	4.4	4.4	4.5	3.6	4.5	5.1	3.5	3.6	3.3	4.6	5.0	4.1	3.6	3.6
Beans, baked.....No. 2 can..	10.2	11.2	11.1	10.8	11.3	11.6	10.2	10.8	11.0	13.2	13.1	13.4	11.0	11.0	11.2
Corn, canned.....do.....	16.0	15.8	15.4	15.7	15.9	16.3	15.4	15.3	15.3	15.7	16.4	16.4	14.7	14.2	14.4
Peas, canned.....do.....	17.6	17.0	16.8	16.4	17.3	17.3	14.8	15.5	15.5	18.0	17.6	17.8	15.8	15.5	15.3
Tomatoes, canned.....No. 2 can..	10.1	9.8	10.0	15.0 ¹	15.0 ¹	14.8	11.1	10.3	10.5	12.5	12.1	11.7	9.9	9.7	9.8
Sugar.....pound..	7.7	7.6	7.6	7.0	6.7	6.8	7.5	7.3	7.4	7.5	7.3	7.2	7.1	7.0	7.1
Tea.....do.....	104.5	102.4	105.3	74.1	75.7	75.9	90.6	89.2	92.3	64.2	65.2	65.1	98.4	97.6	97.6
Coffee.....do.....	50.8	54.0	54.3	51.2	53.9	54.8	47.2	50.8	51.5	47.9	51.9	51.1	47.3	49.9	49.8
Prunes.....do.....	15.1	15.2	15.0	13.5	11.9	12.5	18.9	16.0	16.3	13.7	12.9	12.9	14.6	13.5	12.9
Raisins.....do.....	15.3	14.8	14.2	12.7	11.5	10.6	14.9	14.2	14.0	13.8	13.3	13.0	14.7	14.6	14.5
Bananas.....dozen..	² 8.3	² 7.5	² 8.7	² 9.6	² 7.4	² 8.9	² 9.9	² 8.8	² 9.4	² 9.3	² 7.7	² 8.8	² 8.4	² 7.1	² 8.7
Oranges.....do.....	50.9	59.0	59.9	51.1	55.5	59.1	47.3	56.4	57.1	56.5	68.1	66.4	47.6	61.2	61.7

¹ The steak for which prices are here quoted is called "sirloin" in this city, but in most of the other cities included in this report it would be known as "porterhouse" steak.

² Per pound.

³ No. 2½ can.

TABLE 4.—AVERAGE RETAIL PRICES OF THE PRINCIPAL ARTICLES OF FOOD IN 51 CITIES, SEPTEMBER 15, 1927, AND AUGUST 15 AND SEPTEMBER 15, 1928—Continued

Article	Milwaukee, Wis.			Minneapolis, Minn.			Mobile, Ala.			Newark, N. J.			New Haven, Conn.		
	Sept. 15, 1927	1928		Sept. 15, 1927	1928		Sept. 15, 1927	1928		Sept. 15, 1927	1928		Sept. 15, 1927	1928	
		Aug. 15	Sept. 15		Aug. 15	Sept. 15		Aug. 15	Sept. 15		Aug. 15	Sept. 15		Aug. 15	Sept. 15
Sirloin steak.....pound..	Cts. 41.4	Cts. 49.0	Cts. 49.7	Cts. 36.1	Cts. 44.2	Cts. 44.3	Cts. 35.9	Cts. 42.2	Cts. 41.7	Cts. 48.3	Cts. 58.2	Cts. 58.5	Cts. 58.3	Cts. 64.8	Cts. 67.7
Round steak.....do.....	36.7	44.2	44.6	31.8	39.3	38.8	35.0	40.9	41.1	46.2	53.8	55.5	47.5	53.7	55.6
Rib roast.....do.....	29.1	34.7	35.0	28.6	33.7	33.3	29.1	31.1	32.8	37.5	42.9	44.2	38.3	42.7	43.0
Chuck roast.....do.....	25.8	31.1	31.1	23.2	28.8	29.2	23.6	27.2	28.9	26.9	33.5	36.0	29.2	34.7	35.8
Plate beef.....do.....	15.3	20.0	20.9	13.6	17.6	18.3	17.8	20.9	21.4	13.7	19.3	20.6	15.9	18.9	20.1
Pork chops.....do.....	41.3	39.7	45.5	37.2	38.3	43.7	38.2	35.6	38.3	41.7	42.1	47.8	42.0	41.4	47.0
Bacon, sliced.....do.....	45.9	45.7	46.8	46.5	46.7	47.6	46.2	41.0	40.8	46.0	43.6	44.5	44.7	46.6	47.6
Ham, sliced.....do.....	47.5	49.9	51.3	51.2	52.3	52.9	51.8	50.5	52.3	53.8	56.9	58.6	57.3	61.5	62.0
Lamb, leg of.....do.....	38.2	41.2	41.0	34.3	37.9	36.2	41.4	40.0	41.7	38.9	40.2	41.8	40.0	42.0	41.5
Hens.....do.....	31.0	33.3	36.0	30.3	34.3	34.8	33.6	32.0	32.4	37.3	38.3	39.3	40.2	42.5	42.6
Salmon, canned, red															
pound.....	33.2	33.4	32.8	36.6	36.8	36.6	31.3	35.6	34.9	31.4	32.1	31.4	33.9	34.8	34.4
Milk, fresh.....quart..	11.0	11.0	11.0	11.0	12.0	12.0	17.8	18.0	18.0	16.0	16.0	16.0	16.0	16.0	16.0
Milk, evaporated															
15-16 oz. can.....	11.3	10.8	10.2	11.7	11.6	11.6	11.5	11.2	11.3	11.3	10.8	10.8	12.1	11.8	11.9
Butter.....pound.....	52.5	52.9	55.8	50.4	52.7	54.8	52.4	54.9	56.2	55.5	56.9	59.3	52.4	55.0	56.8
Oleomargarine (all															
butter substitutes)															
pound.....	26.4	26.0	26.5	25.4	25.5	25.7	29.3	30.2	29.9	29.8	29.1	29.3	29.5	29.3	28.8
Cheese.....do.....	35.9	37.1	37.6	36.3	36.8	37.5	37.3	36.8	36.8	44.1	40.0	40.3	39.4	40.9	40.9
Lard.....do.....	19.3	18.7	19.6	18.3	18.7	19.6	19.2	18.5	18.7	19.4	18.3	18.8	18.5	18.8	19.5
Vegetable lard substitute.....															
pound.....	26.6	26.4	26.4	27.0	27.0	27.0	21.2	20.8	20.9	25.6	25.5	25.4	25.5	26.1	25.9
Eggs, strictly fresh															
dozen.....	42.1	38.9	43.7	37.9	38.2	40.1	45.6	39.2	44.4	59.4	52.4	60.5	64.4	61.4	70.6
Bread.....pound.....	9.1	8.7	8.7	8.9	8.9	8.9	10.1	10.1	10.1	9.5	9.1	9.1	9.2	9.0	9.0
Flour.....do.....	5.0	4.8	4.6	5.1	5.1	4.8	6.1	6.4	6.3	5.5	5.4	4.9	5.5	5.5	5.4
Corn meal.....do.....	5.6	5.7	5.8	5.4	5.2	5.5	4.1	4.1	4.1	6.5	6.9	6.9	6.8	6.6	6.9
Rollod oats.....do.....	8.4	8.4	8.3	7.9	7.8	7.8	8.5	8.2	8.4	8.5	8.0	8.3	9.1	9.4	9.3
Corn flakes															
8-oz. package.....	9.2	9.2	9.3	10.0	9.8	9.9	9.5	9.3	9.4	8.6	8.6	8.6	10.0	9.8	10.0
Wheat cereal															
28-oz. package.....	24.7	24.6	24.7	25.7	25.3	25.4	24.3	24.5	25.0	24.1	24.8	24.8	24.9	25.3	24.6
Macaroni.....pound.....	17.4	17.7	17.9	19.1	18.2	17.7	20.7	21.2	21.2	21.4	21.4	21.2	22.2	22.3	22.6
Rice.....do.....	10.6	10.1	10.1	10.5	9.8	9.5	10.0	8.8	9.0	10.7	9.9	9.7	10.3	10.2	10.4
Beans, navy.....do.....	8.6	13.2	13.5	9.8	13.6	13.6	8.6	11.6	11.1	9.8	12.3	12.7	9.3	12.0	12.0
Potatoes.....do.....	2.8	1.9	1.7	1.8	1.0	1.0	4.4	2.6	3.0	3.3	2.3	2.3	3.1	2.2	2.2
Onions.....do.....	5.2	5.1	5.3	5.4	5.3	5.2	5.4	4.5	5.5	5.5	5.7	6.9	5.9	6.2	6.6
Cabbage.....do.....	3.4	3.3	3.2	3.2	2.5	2.1	4.8	4.2	4.2	4.5	5.2	5.0	4.5	4.7	5.2
Beans, baked															
No. 2 can.....	10.8	11.4	11.5	12.0	12.2	12.2	10.3	10.3	10.5	10.6	10.6	10.6	11.5	11.9	11.9
Corn, canned.....do.....	15.5	16.0	16.2	13.5	14.4	14.5	15.5	15.7	15.8	15.7	17.1	17.1	18.4	18.1	18.0
Peas, canned.....do.....	15.2	16.0	15.9	14.2	14.8	14.9	15.4	15.9	15.9	16.8	17.3	17.3	18.4	20.2	21.6
Tomatoes, canned															
No. 2 can.....	13.3	13.0	13.0	13.3	13.3	12.9	10.5	9.9	9.8	10.9	10.5	10.5	13.8	13.0	13.0
Sugar.....pound.....	6.9	7.0	6.8	7.3	7.2	7.1	7.2	7.0	7.0	6.8	6.6	6.5	7.2	7.0	6.9
Tea.....do.....	71.3	68.4	68.8	60.8	62.3	61.5	80.0	81.0	81.1	61.0	59.0	59.0	58.9	59.5	60.8
Coffee.....do.....	41.9	45.0	45.3	50.2	52.9	53.2	47.3	48.5	48.6	46.3	49.1	49.2	48.9	51.6	51.5
Prunes.....do.....	14.6	13.6	13.8	14.9	14.0	13.9	15.6	14.5	15.1	14.5	13.1	12.9	14.6	13.1	13.7
Raisins.....do.....	14.4	13.9	13.2	14.3	14.1	13.1	13.8	13.3	13.6	14.2	13.0	13.0	13.8	13.7	13.5
Bananas.....dozen.....	9.3	8.5	9.2	10.7	9.3	9.6	21.9	24.3	23.6	38.3	37.0	37.0	33.2	33.5	33.5
Oranges.....do.....	52.0	64.1	66.3	60.3	65.4	67.7	47.5	56.0	55.2	59.0	69.8	72.5	59.6	73.9	73.1

¹ Per pound.

TABLE 4.—AVERAGE RETAIL PRICES OF THE PRINCIPAL ARTICLES OF FOOD IN 51 CITIES, SEPTEMBER 15, 1927, AND AUGUST 15 AND SEPTEMBER 15, 1928—Continued

Article	New Orleans, La.			New York, N. Y.			Norfolk, Va.			Omaha, Nebr.			Peoria, Ill.		
	Sept. 15, 1927	1928		Sept. 15, 1927	1928		Sept. 15, 1927	1928		Sept. 15, 1927	1928		Sept. 15, 1927	1928	
		Aug. 15	Sept. 15		Aug. 15	Sept. 15		Aug. 15	Sept. 15		Aug. 15	Sept. 15		Aug. 15	Sept. 15
Sirloin steak.....pound	Cts. 37.5	Cts. 43.6	Cts. 44.7	Cts. 49.7	Cts. 56.0	Cts. 57.1	Cts. 42.1	Cts. 48.8	Cts. 49.2	Cts. 39.9	Cts. 49.5	Cts. 50.4	Cts. 35.7	Cts. 42.5	Cts. 42.1
Round steak.....do	33.3	38.7	38.9	47.0	52.8	53.6	36.3	43.6	44.4	38.1	47.5	47.9	34.6	41.0	41.3
Rib roast.....do	31.2	36.0	36.3	41.0	45.3	46.4	32.7	38.0	40.0	27.8	33.4	33.9	25.5	33.1	32.5
Chuck roast.....do	21.3	26.9	26.3	27.0	31.6	32.1	23.6	29.0	28.3	23.1	30.7	30.9	22.5	27.7	29.6
Plate beef.....do	17.7	20.9	21.3	21.4	24.3	26.0	16.3	18.0	19.8	13.2	17.2	18.7	14.8	19.2	19.6
Pork chops.....do	40.4	38.4	41.6	44.5	43.7	47.4	38.2	36.1	37.2	38.6	37.5	42.6	35.8	34.0	39.4
Bacon, sliced.....do	46.4	43.8	43.8	48.5	47.0	47.3	43.1	42.7	42.5	48.2	47.4	47.7	48.8	45.4	45.0
Ham, sliced.....do	50.1	52.1	52.8	59.4	59.4	60.4	46.7	46.5	47.0	51.2	54.1	55.1	55.0	51.2	52.5
Lamb, leg of.....do	38.8	40.5	40.6	38.3	38.6	40.4	41.3	45.8	44.7	37.5	39.0	39.0	40.0	42.3	42.9
Hens.....do	37.1	35.0	37.1	38.7	39.2	39.8	35.1	35.7	36.8	30.9	31.8	32.4	32.4	32.4	32.9
Salmon, canned, red pound	37.4	36.9	36.1	33.0	33.2	31.6	35.1	36.9	36.2	35.1	36.0	35.3	34.8	33.8	35.1
Milk, fresh.....quart	14.0	14.0	14.0	16.0	16.0	16.0	17.5	18.0	18.0	11.3	11.3	11.3	13.0	13.0	13.0
Milk, evaporated 15-16 oz. can	11.2	10.9	10.8	11.1	10.7	10.9	11.8	11.5	11.4	11.8	11.4	11.4	11.2	11.1	11.1
Butter.....pound	53.5	55.9	56.9	55.7	56.0	57.7	55.3	58.4	58.9	48.3	50.4	53.3	49.8	50.8	53.8
Oleomargarine (all butter substitutes) pound	28.7	28.4	28.4	27.7	27.6	28.2	26.3	25.0	25.0	26.1	26.0	25.8	27.7	27.6	27.6
Cheese.....do	37.9	38.5	39.3	39.8	40.5	41.1	35.8	35.1	35.4	38.0	36.1	37.3	36.6	37.3	37.5
Lard.....do	19.2	18.4	18.3	20.5	19.4	20.3	19.2	18.1	18.6	19.7	19.8	20.3	18.8	18.4	19.0
Vegetable lard substitute.....pound	19.0	20.2	19.5	25.9	25.9	25.8	22.9	21.2	21.6	25.9	25.6	25.7	27.8	27.4	27.6
Eggs, strictly fresh dozen	42.6	41.4	43.7	60.6	54.6	62.0	51.9	45.0	51.5	35.8	35.4	39.0	39.4	37.4	40.9
Bread.....pound	8.8	8.9	8.9	9.7	8.7	8.7	9.9	9.9	9.9	9.7	9.6	9.6	10.0	10.0	10.0
Flour.....do	6.7	6.9	6.9	5.5	5.3	5.0	5.7	5.7	5.5	4.6	4.3	4.4	5.3	5.1	5.0
Corn meal.....do	4.4	4.1	4.2	6.4	6.5	6.8	4.7	4.8	4.7	4.7	4.6	4.7	4.9	4.8	4.8
Rolled oats.....do	8.9	8.7	8.7	8.6	8.7	8.6	8.6	8.6	8.8	10.1	9.9	9.9	9.2	8.8	8.9
Corn flakes 8-oz. package	9.7	9.5	9.5	8.6	8.7	8.8	9.7	9.7	9.7	10.2	10.1	10.1	10.2	9.6	9.6
Wheat cereal 28-oz. package	24.6	24.7	24.6	23.9	24.0	24.4	25.2	25.3	25.4	27.9	28.0	28.2	26.3	26.3	26.2
Macaroni.....pound	10.7	10.6	10.6	21.1	20.8	20.8	19.1	19.0	19.0	21.3	21.3	21.2	18.6	18.9	18.8
Rice.....do	9.7	9.1	8.8	9.7	9.9	9.9	11.5	11.0	11.3	11.1	11.0	11.3	11.4	10.3	10.4
Beans, navy.....do	8.6	10.7	11.3	10.2	12.9	13.2	8.2	11.8	12.0	10.3	13.5	13.5	8.9	13.7	13.8
Potatoes.....do	4.2	2.9	2.9	3.3	2.4	2.4	3.9	1.9	1.9	2.6	1.5	1.5	2.7	1.7	1.7
Onions.....do	4.6	4.3	4.8	5.4	5.6	6.5	5.6	5.7	6.9	5.4	4.8	4.9	6.9	6.1	5.9
Cabbage.....do	4.6	4.1	4.7	3.7	4.5	4.6	4.5	4.1	4.5	3.6	2.1	2.5	3.8	3.2	3.0
Beans, baked No. 2 can	10.8	10.6	10.5	10.9	11.2	11.3	9.9	10.2	10.4	13.0	13.3	13.3	11.1	10.4	10.1
Corn, canned.....do	14.7	15.4	15.4	14.3	15.2	15.4	14.7	15.0	14.6	16.2	16.4	16.2	14.6	15.5	15.0
Peas, canned.....do	17.0	16.8	16.5	14.4	15.0	15.3	18.7	18.1	18.6	15.3	15.9	15.8	17.1	16.3	16.8
Tomatoes, canned No. 2 can	10.6	10.6	10.4	11.3	11.2	11.2	9.9	9.7	9.9	12.8	13.4	13.1	12.5	12.0	12.2
Sugar.....pound	6.8	6.5	6.5	6.4	6.3	6.3	6.9	6.9	6.9	7.6	7.2	7.2	8.4	8.0	7.8
Tea.....do	78.8	82.6	81.8	66.5	68.6	67.8	96.4	94.6	94.7	77.8	77.2	77.2	70.9	66.7	66.0
Coffee.....do	35.6	35.0	35.2	45.2	46.1	45.7	46.9	49.6	50.5	53.4	53.7	53.7	46.9	48.9	49.5
Prunes.....do	16.6	14.5	13.7	13.4	13.4	12.6	15.7	13.4	13.1	16.4	14.6	14.9	17.0	15.0	15.4
Raisins.....do	13.7	13.3	12.1	13.9	13.1	12.9	14.5	13.5	13.7	15.2	14.3	14.0	14.5	14.1	14.0
Bananas.....dozen	17.5	17.1	17.1	35.4	36.1	38.3	34.5	33.5	33.0	11.0	9.6	9.8	9.6	8.4	8.7
Oranges.....do	45.6	55.6	59.0	65.8	74.2	78.3	50.6	60.7	75.8	46.5	54.9	57.3	51.0	56.9	58.8

* Per pound.

TABLE 4.—AVERAGE RETAIL PRICES OF THE PRINCIPAL ARTICLES OF FOOD IN 51 CITIES, SEPTEMBER 15, 1927, AND AUGUST 15 AND SEPTEMBER 15, 1928—Continued

Article	Philadelphia, Pa.			Pittsburgh, Pa.			Portland, Me.			Portland, Oreg.		
	1928			1928			1928			1928		
	Sept. 15, 1927	Aug. 15	Sept. 15	Sept. 15, 1927	Aug. 15	Sept. 15	Sept. 15, 1927	Aug. 15	Sept. 15	Sept. 15, 1927	Aug. 15	Sept. 15
Sirloin steak.....pound	59.8 ¹	66.8 ¹	68.1 ¹	49.8	59.4	59.2 ¹	64.7 ¹	73.2 ¹	74.4	31.7	35.0	35.9
Round steak.....do	45.9	54.1	54.4	41.9	51.4	51.0	48.5	55.4	56.6	29.0	32.8	33.9
Rib roast.....do	38.3	42.6	43.7	35.5	41.0	42.8	32.2	36.2	38.0	25.8	30.0	29.9
Chuck roast.....do	27.8	35.8	37.3	27.7	34.9	36.1	22.3	27.5	28.4	19.7	23.5	24.4
Plate beef.....do	14.0	19.7	19.9	14.1	20.1	21.3	18.3	22.7	26.9	14.3	18.3	18.8
Pork chops.....do	45.6	44.2	50.0	45.4	42.6	49.1	42.7	39.9	45.7	39.6	39.1	41.9
Bacon, sliced.....do	45.7	42.9	44.3	51.4	48.9	50.1	42.9	40.8	41.8	53.3	49.1	51.3
Ham, sliced.....do	56.4	59.4	59.9	59.3	61.1	62.4	55.7	53.8	55.5	55.8	54.3	55.9
Lamb, leg of.....do	40.8	42.0	43.0	41.0	42.6	42.2	39.1	43.4	42.5	35.8	36.2	36.0
Hens.....do	39.0	41.4	42.0	42.1	44.8	45.9	40.8	41.8	42.2	31.6	33.2	34.0
Salmon, canned, red.....do	32.2	31.9	30.8	31.8	31.8	31.5	33.4	34.4	32.6	33.7	33.3	31.3
Milk, fresh.....quart	13.0	13.0	13.0	14.0	14.3	14.0	13.8	15.0	15.0	12.0	12.0	12.0
Milk, evaporated.....15-16 oz. can	11.7	11.5	11.5	11.1	10.5	10.8	12.7	12.3	12.5	10.7	10.0	10.0
Butter.....pound	57.5	59.1	61.2	56.5	56.7	59.7	55.0	58.0	59.2	54.4	55.9	58.9
Oleomargarine (all butter substitutes).....pound	28.5	28.5	28.8	30.7	28.4	28.5	27.5	26.6	26.6	26.8	25.5	26.2
Cheese.....do	40.0	42.2	42.8	40.1	41.8	41.7	37.9	39.5	39.8	38.5	38.7	38.5
Lard.....do	18.0	18.1	19.2	18.6	18.5	19.4	18.2	18.3	18.7	20.3	19.7	19.9
Vegetable lard substitute.....do	25.4	24.7	24.9	27.3	27.4	27.7	26.9	26.2	26.2	28.3	27.8	28.4
Eggs, strictly fresh.....dozen	52.1	48.2	54.8	49.7	47.0	52.7	63.1	62.2	67.4	43.5	38.5	47.7
Bread.....pound	9.4	9.1	8.6	9.0	9.1	9.1	10.3	10.1	10.1	9.3	9.2	9.3
Flour.....do	5.2	5.3	5.1	5.3	5.2	4.8	5.5	5.5	5.4	5.1	4.9	4.9
Corn meal.....do	4.8	5.3	5.1	5.9	6.0	6.0	5.0	5.2	5.1	5.5	6.0	5.8
Rolled oats.....do	8.6	8.5	8.3	9.1	9.1	9.1	8.0	8.0	8.0	10.2	10.5	10.5
Corn flakes.....8-oz. package	9.5	8.9	8.8	10.0	9.7	9.6	9.6	9.5	9.4	9.6	9.4	9.5
Wheat cereal.....28-oz. package	24.6	25.2	25.3	25.1	24.7	24.6	25.6	25.6	25.6	26.2	27.0	26.8
Macaroni.....pound	20.7	20.7	20.5	23.3	22.8	22.7	24.0	23.2	23.2	18.2	18.5	18.6
Rice.....do	11.3	10.4	10.5	11.4	10.8	11.1	12.3	11.4	11.3	10.5	9.6	10.1
Beans, navy.....do	9.0	11.1	11.4	8.9	12.5	12.5	10.4	12.6	12.7	11.2	12.8	12.8
Potatoes.....do	3.5	2.4	2.3	3.2	2.0	2.1	2.6	2.1	2.0	2.7	2.3	2.2
Onions.....do	4.9	4.5	6.0	5.3	6.1	6.4	4.9	5.3	5.7	3.7	3.8	4.2
Cabbage.....do	3.8	4.8	5.8	4.4	4.2	4.6	2.7	4.6	4.1	3.8	4.2	4.3
Beans, baked.....No. 2 can	10.9	11.1	11.4	12.8	12.8	12.8	14.1	15.2	15.2	12.0	11.8	12.3
Corn, canned.....do	14.5	14.8	15.2	16.0	16.0	16.2	14.4	14.2	14.1	18.3	16.9	17.9
Peas, canned.....do	15.0	15.6	15.6	16.9	17.0	17.1	17.5	17.4	17.4	18.1	17.1	17.0
Tomatoes, canned.....do	11.7	11.6	11.7	11.9	11.9	11.8	13.1	11.8	11.7	16.6	15.3	15.6
Sugar.....pound	6.7	6.5	6.6	7.3	7.2	7.2	7.3	7.0	6.9	7.2	6.9	7.0
Tea.....do	67.8	70.0	71.4	83.0	81.0	82.1	62.2	62.2	62.2	78.0	79.9	81.1
Coffee.....do	39.2	43.1	43.9	46.0	48.9	49.0	49.5	53.2	53.1	51.3	53.3	53.3
Prunes.....do	13.3	12.8	12.2	16.3	14.0	13.8	13.8	12.2	11.9	11.4	11.5	11.1
Raisins.....do	13.4	13.0	12.3	14.3	13.4	12.8	13.1	12.3	12.1	13.5	13.2	12.2
Bananas.....dozen	29.6	28.7	28.8	38.2	33.6	36.4	11.0 ²	10.5 ²	10.1 ²	12.8 ²	9.2 ²	10.3
Oranges.....do	56.9	68.7	66.8	60.0	65.4	67.5	66.4	71.5	77.5	52.5	60.8	59.2

¹ The steak for which prices are here quoted is called "sirloin" in this city, but in most of the other cities included in this report it would be known as "porterhouse" steak.

² Per pound.

³ No. 2½ can.

MONTHLY LABOR REVIEW

TABLE 4.—AVERAGE RETAIL PRICES OF THE PRINCIPAL ARTICLES OF FOOD IN 51 CITIES, SEPTEMBER 15, 1927, AND AUGUST 15 AND SEPTEMBER 15, 1928—Continued

Article	Providence, R. I.			Richmond, Va.			Rochester, N. Y.			St. Louis, Mo.		
	Sept. 15, 1927	1928		Sept. 15, 1927	1928		Sept. 15, 1927	1928		Sept. 15, 1927	1928	
		Aug. 15	Sept. 15		Aug. 15	Sept. 15		Aug. 15	Sept. 15		Aug. 15	Sept. 15
Sirloin steak.....pound.....	Cts. 75.3	Cts. 80.8	Cts. 84.6	Cts. 41.8	Cts. 48.8	Cts. 49.2	Cts. 44.2	Cts. 52.0	Cts. 52.9	Cts. 39.0	Cts. 48.6	Cts. 47.8
Round steak.....do.....	52.1	58.6	60.1	37.6	43.2	44.2	36.8	44.0	45.4	38.3	46.8	46.9
Rib roast.....do.....	40.1	43.7	44.8	33.3	35.6	36.3	32.3	36.6	37.0	30.8	36.6	36.6
Chuck roast.....do.....	30.4	35.2	36.0	23.6	29.3	29.4	26.1	31.5	33.0	22.5	29.2	29.4
Plate beef.....do.....	18.0	24.0	25.4	17.3	20.4	21.3	14.4	18.1	20.1	15.2	19.7	20.6
Pork chops.....do.....	46.7	44.3	49.6	41.5	39.3	43.3	44.4	44.3	49.9	37.4	39.0	42.7
Bacon, sliced.....do.....	42.4	41.9	43.0	42.8	40.3	41.5	41.6	39.4	41.6	43.0	42.9	42.6
Ham, sliced.....do.....	53.8	56.6	57.1	46.4	45.1	46.7	54.1	55.1	56.8	51.0	53.9	55.0
Lamb, leg of.....do.....	40.1	41.0	41.7	43.6	45.3	44.0	38.7	39.5	40.0	37.4	37.9	37.8
Hens.....do.....	39.2	41.8	42.9	32.9	34.0	31.3	38.9	40.0	41.1	31.7	34.1	35.9
Salmon, canned, red.....do.....	33.1	32.9	32.3	34.0	35.3	34.3	34.2	35.2	33.7	34.0	32.5	32.4
Milk, fresh.....quart.....	15.5	15.7	15.7	14.0	14.0	14.0	13.5	13.0	13.0	13.0	13.0	13.0
Milk, evaporated.....15-16 oz. can.....	12.1	11.3	11.5	12.4	12.2	12.3	11.3	11.2	11.4	10.9	10.3	10.6
Butter.....pound.....	52.0	55.7	56.9	56.1	59.7	61.0	52.4	54.9	57.0	55.3	57.0	58.9
Oleomargarine (all butter substitutes).....pound.....	28.1	26.6	27.2	31.4	30.0	29.9	29.8	28.4	28.3	26.7	26.9	27.1
Cheese.....do.....	37.2	39.3	38.7	36.8	37.1	37.1	38.6	39.1	39.1	36.8	37.4	37.2
Lard.....do.....	18.6	17.8	18.3	18.8	17.6	18.3	18.4	17.3	18.1	15.9	15.5	16.6
Vegetable lard substitute.....do.....	26.2	26.6	26.3	25.9	25.8	25.0	24.7	26.3	26.0	25.5	25.3	25.3
Eggs, strictly fresh.....dozen.....	68.0	61.4	65.4	43.2	39.4	47.1	48.0	45.5	52.4	40.7	40.0	44.3
Bread.....pound.....	9.1	9.0	9.0	9.4	8.9	8.9	9.0	9.0	8.9	9.9	9.5	9.4
Flour.....do.....	5.8	5.6	5.5	5.6	5.6	5.4	5.4	5.5	5.3	5.3	5.2	5.1
Corn meal.....do.....	5.2	5.1	5.0	4.9	4.9	4.8	6.2	6.4	6.4	4.7	4.3	4.3
Rolled oats.....do.....	9.1	9.0	9.0	8.6	8.5	8.6	9.4	9.2	9.4	8.5	8.1	8.1
Corn flakes.....8-oz. package.....	9.5	9.5	9.4	9.7	9.5	9.6	9.4	9.1	9.4	8.9	8.8	8.7
Wheat cereal.....28-oz. package.....	24.9	24.8	24.8	25.9	25.9	26.0	25.0	25.6	25.6	24.7	24.7	24.7
Macaroni.....pound.....	23.2	22.8	23.1	20.9	20.0	20.0	20.3	20.6	20.6	20.1	19.5	19.5
Rice.....do.....	10.8	10.1	10.4	11.9	11.0	11.2	10.0	9.6	9.4	10.2	9.9	9.8
Beans, navy.....do.....	10.1	12.9	13.0	9.1	13.1	12.7	9.4	13.1	13.3	8.7	12.5	12.5
Potatoes.....do.....	3.1	2.0	2.1	3.4	2.4	2.4	2.5	1.9	2.0	3.4	1.7	1.7
Onions.....do.....	4.7	5.2	5.8	7.1	5.5	6.9	4.9	5.0	5.5	5.9	5.3	5.6
Cabbage.....do.....	4.3	4.6	4.8	4.0	5.0	4.6	2.5	3.9	4.0	4.0	2.7	3.4
Beans, baked.....No. 2 can.....	11.2	11.1	11.4	10.1	10.5	10.5	10.2	10.2	10.4	10.3	10.8	10.3
Corn, canned.....do.....	17.2	17.3	17.3	15.1	15.3	15.1	16.6	16.4	16.2	15.2	15.3	14.9
Peas, canned.....do.....	18.9	18.0	18.9	18.8	17.6	17.4	18.0	17.4	17.2	15.3	14.6	14.5
Tomatoes, canned.....do.....	13.1	13.0	12.8	10.5	10.6	10.6	13.4	13.8	13.8	11.3	10.7	10.4
Sugar.....pound.....	7.0	6.8	6.8	7.1	7.0	7.0	6.6	6.6	6.4	7.2	7.1	7.1
Tea.....do.....	60.8	60.4	60.1	91.5	90.6	91.3	69.7	70.9	70.9	76.5	74.9	74.8
Coffee.....do.....	48.8	51.3	52.2	46.2	47.6	48.1	44.3	48.7	48.8	45.1	46.9	47.1
Prunes.....do.....	13.6	13.3	13.1	15.5	14.2	14.5	15.2	14.1	14.4	17.7	15.3	15.6
Raisins.....do.....	14.0	13.5	13.5	14.1	13.3	12.7	14.6	14.0	13.2	14.4	13.6	12.4
Bananas.....dozen.....	33.3	30.7	31.4	36.5	36.4	36.4	36.4	35.0	35.0	32.5	30.7	31.8
Oranges.....do.....	69.5	75.7	82.9	55.8	71.3	68.5	56.2	67.1	68.8	54.1	56.5	60.2

¹ The steak for which prices are here quoted is called "sirloin" in this city, but in most of the other cities included in this report it would be known as "porterhouse" steak.

TABLE 4.—AVERAGE RETAIL PRICES OF THE PRINCIPAL ARTICLES OF FOOD IN 51 CITIES, SEPTEMBER 15, 1927, AND AUGUST 15 AND SEPTEMBER 15, 1928—Continued

Article	St. Paul, Minn.			Salt Lake City, Utah			San Francisco, Calif.			Savannah, Ga.		
	Sept. 15, 1927	1928		Sept. 15, 1927	1928		Sept. 15, 1927	1928		Sept. 15, 1927	1928	
		Aug. 15	Sept. 15		Aug. 15	Sept. 15		Aug. 15	Sept. 15		Aug. 15	Sept. 15
Sirloin steak.....pound	Cts. 39.9	Cts. 46.6	Cts. 46.1	Cts. 33.1	Cts. 37.8	Cts. 39.5	Cts. 33.2	Cts. 38.1	Cts. 40.4	Cts. 35.8	Cts. 41.1	Cts. 41.4
Round steak.....do	34.1	38.8	39.3	30.6	36.9	37.9	30.4	35.5	38.8	29.6	35.0	35.0
Rib roast.....do	32.1	35.6	36.8	25.1	30.2	30.7	30.6	33.7	36.4	27.9	31.1	32.3
Chuck roast.....do	24.6	29.9	30.2	19.6	24.5	25.8	19.7	22.9	25.0	18.8	23.3	23.8
Plate beef.....do	14.5	17.9	18.6	14.2	17.2	18.8	15.5	18.3	20.3	15.8	19.8	19.2
Pork chops.....do	37.6	37.2	42.5	39.4	38.8	45.0	43.3	42.7	45.0	32.5	30.9	32.0
Bacon, sliced.....do	45.2	44.7	45.4	46.9	45.2	45.6	56.7	55.5	55.8	41.9	38.2	41.2
Ham, sliced.....do	48.2	50.4	51.6	57.5	55.4	57.7	63.8	62.8	63.3	45.0	42.5	44.5
Lamb, leg of.....do	32.8	35.4	32.9	35.1	38.2	38.1	38.8	38.6	39.3	40.0	38.8	40.8
Hens.....do	28.8	30.8	32.3	29.8	33.3	33.7	41.8	40.7	42.2	32.6	30.3	31.0
Salmon, canned, red.....do	37.5	38.0	37.5	35.3	33.7	33.3	32.0	30.3	29.2	34.3	36.0	33.4
Milk, fresh.....quart	11.0	12.0	12.0	11.0	10.0	10.0	14.0	14.0	14.0	17.0	17.0	17.0
Milk, evaporated.....15-16 oz. can	12.2	11.7	13.5	10.7	10.1	10.2	10.4	10.0	10.0	11.6	11.2	11.3
Butter.....pound	48.6	51.1	53.3	51.2	52.1	53.8	56.0	55.7	59.0	53.1	56.1	58.7
Oleomargarine (all butter substitutes).....pound	23.2	24.5	24.5	27.2	25.8	25.8	26.0	25.3	25.3	31.1	30.7	30.5
Cheese.....do	36.1	36.5	36.9	30.9	30.9	30.9	39.2	40.2	40.3	36.1	35.2	35.6
Lard.....do	18.7	18.8	19.5	21.0	20.1	20.9	22.8	22.6	22.7	18.9	17.4	17.6
Vegetable lard substitute.....do	28.5	28.0	28.0	29.0	29.0	29.4	28.1	27.5	27.5	17.5	16.6	17.3
Eggs, strictly fresh.....dozen	38.8	38.2	40.0	38.7	37.3	42.9	47.2	41.0	47.4	49.5	44.0	51.0
Bread.....pound	9.5	9.3	9.3	9.7	9.7	9.7	9.5	9.5	9.8	10.7	10.6	10.6
Flour.....do	5.3	5.1	5.0	4.1	4.1	3.7	5.6	5.6	5.4	6.6	6.5	6.5
Corn meal.....do	5.7	5.1	5.0	5.6	5.6	5.7	6.4	6.8	7.2	3.8	3.7	3.7
Rolled oats.....do	10.3	10.1	10.2	8.8	8.5	8.7	10.1	10.1	10.2	8.6	8.6	8.6
Corn flakes.....8-oz. package	10.2	10.3	10.4	10.0	9.9	10.0	9.9	9.6	9.7	9.7	9.5	9.5
Wheat cereal.....28-oz. package	26.7	26.3	26.3	25.7	25.1	25.5	25.3	25.4	25.2	24.3	24.3	24.3
Macaroni.....pounds	18.8	18.4	18.4	20.1	19.9	19.5	16.1	16.1	16.1	18.2	17.7	17.9
Rice.....do	10.4	10.4	10.4	9.2	8.7	8.6	11.3	10.0	9.8	9.6	9.1	8.8
Beans, navy.....do	9.6	13.5	13.9	9.3	11.3	11.4	10.3	12.0	11.6	9.8	12.5	13.2
Potatoes.....do	1.7	1.0	1.0	2.0	1.5	1.5	3.3	2.7	2.7	4.1	3.2	2.9
Onions.....do	5.4	5.3	5.0	3.1	5.0	3.6	4.1	3.8	4.3	6.7	6.4	6.7
Cabbage.....do	2.0	3.0	3.5	3.0	2.8	2.6	-----	-----	-----	4.8	5.0	4.9
Beans, baked.....No. 2 can	13.9	13.8	13.9	13.0	12.1	12.3	12.8	12.8	12.5	12.2	11.8	11.8
Corn, canned.....do	14.4	14.7	15.1	14.4	14.4	14.4	17.9	17.2	17.2	15.2	15.3	15.3
Peas, canned.....do	15.5	14.9	14.9	15.7	15.2	15.2	17.6	18.0	17.8	16.8	16.0	16.0
Tomatoes, canned.....do	14.1	14.0	14.0	13.6	13.8	13.5	15.1	14.4	14.6	9.9	9.6	9.7
Sugar.....pound	7.4	7.2	7.4	8.1	7.5	7.6	7.0	6.6	6.7	7.0	6.8	7.0
Tea.....do	65.7	67.0	67.0	86.5	84.6	86.6	72.8	71.7	71.7	82.2	76.2	75.9
Coffee.....do	52.4	53.6	53.6	54.4	54.0	54.7	51.7	54.5	53.5	45.1	45.7	46.0
Prunes.....do	15.8	13.2	13.5	14.3	12.9	13.2	12.0	11.5	11.3	14.2	12.5	13.7
Raisins.....do	15.6	14.5	13.9	13.3	13.1	12.7	12.8	11.6	11.1	14.2	13.1	12.6
Bananas.....dozen	10.5	9.9	10.1	12.1	11.9	12.5	30.0	25.8	26.5	29.6	23.9	28.5
Oranges.....do	55.7	65.4	66.4	50.5	58.8	63.3	51.3	57.6	58.4	46.5	63.2	65.6

* Per pound.

* No. 2½ can.

TABLE 4.—AVERAGE RETAIL PRICES OF THE PRINCIPAL ARTICLES OF FOOD IN 51 CITIES, SEPTEMBER 15, 1927, AND AUGUST 15 AND SEPTEMBER 15, 1928—Continued

Article	Scranton, Pa.			Seattle, Wash.			Springfield, Ill.			Washington, D. C.		
	Sept. 15, 1927	1928		Sept. 15, 1927	1928		Sept. 15, 1927	1928		Sept. 15, 1927	1928	
		Aug. 15	Sept. 15		Aug. 15	Sept. 15		Aug. 15	Sept. 15		Aug. 15	Sept. 15
Sirloin steak.....pound	Cts. 53.7	Cts. 63.9	Cts. 66.0	Cts. 34.8	Cts. 40.9	Cts. 42.2	Cts. 37.1	Cts. 46.5	Cts. 47.5	Cts. 49.3	Cts. 58.8	Cts. 58.9
Round steak.....do	44.5	53.9	55.5	30.7	37.0	38.0	36.5	46.5	47.1	42.8	52.4	52.8
Rib roast.....do	38.5	44.3	46.5	28.2	32.7	34.6	24.4	32.7	33.6	34.9	40.4	41.3
Chuck roast.....do	28.8	34.9	38.3	20.4	25.3	26.7	22.5	30.6	31.5	25.9	33.0	34.7
Plate beef.....do	13.7	18.1	19.6	15.4	19.5	20.0	14.5	20.0	22.1	14.2	19.2	21.6
Pork chops.....do	44.0	42.7	49.5	40.5	44.5	46.5	35.0	34.8	41.2	44.2	45.3	47.8
Bacon, sliced.....do	47.9	48.5	48.2	57.3	56.0	56.7	45.8	44.8	45.7	43.8	43.8	43.3
Ham, sliced.....do	56.5	60.8	61.3	59.5	61.1	61.5	49.6	52.9	53.6	57.2	59.7	59.7
Lamb, leg of.....do	46.1	48.5	47.7	35.8	38.3	37.8	38.8	42.0	42.8	38.5	41.8	42.0
Hens.....do	42.5	44.0	44.3	31.1	35.1	35.4	33.0	33.9	35.6	38.3	40.8	41.5
Salmon, canned, red.....do	35.4	35.0	34.8	35.8	35.5	34.5	36.2	37.8	36.2	33.3	34.2	32.9
Milk, fresh.....quart	12.0	13.0	13.0	12.0	12.0	12.0	14.4	14.4	14.4	15.0	15.0	15.0
Milk, evaporated.....15-16 oz. can	11.9	11.9	12.0	10.6	10.2	10.2	11.6	11.8	11.8	12.0	12.0	11.9
Butter.....pound	53.0	57.3	59.0	53.5	55.9	58.4	51.8	53.7	55.2	57.2	58.7	61.4
Oleomargarine (all butter substitutes).....pound	28.2	25.8	27.3	26.7	25.0	25.1	28.1	28.4	28.1	27.9	27.2	26.2
Cheese.....do	35.9	39.2	39.2	35.2	35.2	35.5	36.2	38.5	38.5	39.9	40.2	40.4
Lard.....do	19.8	19.9	19.8	20.8	20.5	20.4	18.6	18.5	19.2	18.6	18.3	19.7
Vegetable lard substitute.....do	25.9	26.0	26.0	27.4	27.3	27.5	27.5	27.5	27.7	24.7	24.7	25.2
Eggs, strictly fresh.....dozen	50.9	50.6	57.8	46.4	42.2	51.5	39.8	37.5	41.5	56.4	47.6	54.6
Bread.....pound	10.7	10.7	10.1	9.7	9.6	9.6	10.3	10.2	10.2	9.1	8.9	8.9
Flour.....do	5.9	5.8	5.7	4.8	4.7	4.7	5.5	5.2	5.1	5.9	5.9	5.7
Corn meal.....do	7.8	7.7	7.7	5.7	5.7	5.8	4.9	4.7	4.7	5.2	5.3	5.4
Rollod oats.....do	9.8	9.9	9.8	8.5	8.9	8.8	10.1	9.9	9.9	9.3	9.1	9.1
Corn flakes.....8-oz. package	10.1	9.9	9.9	10.2	9.7	9.8	10.3	10.0	10.0	9.5	9.4	9.4
Wheat cereal.....28-oz. package	25.1	25.6	25.2	27.5	26.6	26.6	27.5	28.1	28.1	24.3	24.9	24.8
Macaroni.....pound	22.9	22.8	22.9	18.1	17.9	18.1	19.3	19.4	19.1	22.5	22.4	22.2
Rice.....do	11.2	10.4	10.3	12.4	10.5	10.4	10.9	10.3	10.4	11.6	10.7	10.7
Beans, navy.....do	10.8	11.9	11.7	11.5	13.3	13.1	9.5	14.0	13.8	8.8	12.5	12.8
Potatoes.....do	3.0	2.0	2.0	2.4	1.9	2.2	3.0	2.0	1.6	3.6	2.4	2.4
Onions.....do	5.6	5.8	6.0	4.0	4.1	3.9	5.8	6.8	5.3	5.8	6.0	7.2
Cabbage.....do	3.2	3.8	4.3	4.4	3.9	3.8	3.9	3.4	3.4	4.1	4.4	4.8
Beans, baked.....No. 2 can	11.2	11.8	11.7	11.6	11.3	11.2	10.4	10.6	10.7	10.2	10.4	10.4
Corn, canned.....do	16.6	17.3	17.2	17.3	18.1	18.0	14.5	15.0	15.0	14.3	15.3	15.4
Peas, canned.....do	16.9	17.8	18.0	18.4	18.6	18.5	16.1	15.9	16.1	15.0	15.2	15.2
Tomatoes, canned.....do	12.2	12.0	12.0	16.4	16.0	16.2	13.6	13.4	13.6	9.8	10.3	10.4
Sugar.....pound	7.1	7.1	7.0	7.2	6.9	6.9	8.0	7.7	7.6	6.9	6.9	6.8
Tea.....do	71.3	68.1	68.5	75.7	77.6	78.6	84.6	84.6	83.8	91.2	96.3	96.3
Coffee.....do	49.4	50.7	50.5	49.2	52.0	52.5	49.7	52.7	52.4	41.0	47.9	47.7
Prunes.....do	15.6	14.0	13.9	13.2	12.5	12.5	16.0	14.1	15.2	16.3	14.5	14.0
Raisins.....do	14.6	14.0	13.3	13.9	12.8	12.8	15.4	14.3	14.3	14.4	13.8	13.3
Bananas.....do	32.9	30.4	30.8	12.4	10.2	10.4	9.3	7.9	9.1	32.7	29.1	30.5
Oranges.....do	60.5	74.9	74.9	52.6	58.1	58.6	52.3	70.5	69.9	63.2	72.0	74.4

* Per pound.

* No. 2½ can.

Comparison of Retail Food Costs in 51 Cities

TABLE 5 shows for 39 cities the percentage of increase or decrease in the retail cost of food³ in September, 1928, compared with the average cost in the year 1913, in September, 1927, and August, 1928. For 12 other cities comparisons are given for the 1-year and the 1-month periods; these cities have been scheduled by the bureau at different dates since 1913. The percentage changes are based on actual retail prices secured each month from retail dealers and on the average family consumption of these articles in each city.⁴

TABLE 5.—PERCENTAGE CHANGE IN THE RETAIL COST OF FOOD IN SEPTEMBER, 1928, COMPARED WITH THE COST IN AUGUST, 1928, SEPTEMBER, 1927, AND WITH THE AVERAGE COST IN THE YEAR 1913, BY CITIES

City	Percentage increase September, 1928, compared with—			City	Percentage increase September, 1928, compared with—		
	1913	September, 1927	August, 1928		1913	September, 1927	August, 1928
Atlanta.....	59.7	0.4	1.4	Minneapolis.....	53.6	4.4	1.2
Baltimore.....	65.0	3.6	2.7	Mobile.....	.....	0.8	2.3
Birmingham.....	61.6	1.4	1.2	Newark.....	53.4	2.0	2.7
Boston.....	61.3	2.4	3.3	New Haven.....	60.6	3.5	2.7
Bridgeport.....	.....	2.5	2.3	New Orleans.....	55.9	1.5	1.4
Buffalo.....	62.4	3.3	2.9	New York.....	60.5	0.2	2.3
Butte.....	.....	2.4	0.3	Norfolk.....	.....	1.2	2.2
Charleston, S. C.....	58.1	1.5	2.9	Omaha.....	50.5	2.4	2.2
Chicago.....	70.2	3.3	2.0	Peoria.....	.....	1.2	1.8
Cincinnati.....	62.3	4.7	2.3	Philadelphia.....	60.9	2.0	1.7
Cleveland.....	57.4	2.0	1.3	Pittsburgh.....	60.2	2.7	2.3
Columbus.....	.....	1.7	2.5	Portland, Me.....	.....	4.3	1.8
Dallas.....	57.4	2.5	2.0	Portland, Oreg.....	43.9	3.2	3.2
Denver.....	40.7	3.3	1.2	Providence.....	60.5	1.9	2.3
Detroit.....	65.0	1.1	1.4	Richmond.....	63.9	1.8	2.2
Fall River.....	57.6	1.9	2.1	Rochester.....	.....	4.0	2.6
Houston.....	.....	0.3	2.3	St. Louis.....	58.4	0.6	1.7
Indianapolis.....	55.1	4.2	1.8	St. Paul.....	.....	4.1	2.0
Jacksonville.....	50.4	0.4	2.8	Salt Lake City.....	35.4	2.7	2.4
Kansas City.....	52.4	4.1	2.9	San Francisco.....	54.3	2.7	3.5
Little Rock.....	48.6	2.2	2.0	Savannah.....	.....	1.0	2.1
Los Angeles.....	48.3	3.8	4.2	Scranton.....	65.8	4.5	1.7
Louisville.....	56.0	4.2	2.8	Seattle.....	50.5	5.1	3.6
Manchester.....	58.6	2.9	1.7	Springfield, Ill.....	.....	2.7	1.0
Memphis.....	51.2	3.4	1.8	Washington.....	69.9	3.7	2.2
Milwaukee.....	59.5	2.0	1.9				

Efforts has been made by the bureau each month to have all schedules for each city included in the average prices. For the month of September 99 per cent of all the firms supplying retail prices in the 51 cities sent in a report promptly. The following-named 40 cities had a perfect record; that is, every merchant who is cooperating with the bureau sent in his report in time for his prices to be included in the city averages: Atlanta, Baltimore, Boston, Bridgeport, Butte, Charleston, S. C., Chicago, Cincinnati, Columbus, Detroit, Fall River, Houston, Indianapolis, Jacksonville, Kansas City, Little Rock, Los Angeles, Louisville, Manchester, Memphis, Milwaukee, Minneapolis, Mobile, Newark, New Haven, New York, Norfolk, Omaha, Peoria, Pittsburgh, Portland, Me., Portland, Oreg., Rochester, St. Louis, St.

³ For list of articles see note 1, p. 173.

⁴ The consumption figures used from January, 1913, to December, 1920, for each article in each city are given in the Labor Review for November, 1918, pp. 94 and 95. The consumption figures which have been used for each month beginning with January, 1921, are given in the Labor Review for March, 1921, p. 26.

Paul, Salt Lake City, Savannah, Scranton, Springfield, Ill., and Washington.

The following summary shows the promptness with which the merchants responded in September, 1928:

RETAIL PRICE REPORTS RECEIVED FOR SEPTEMBER, 1928

Item	United States	Geographical division				
		North Atlantic	South Atlantic	North Central	South Central	Western
Percentage of reports received.....	99.0	99.1	99.4	99.4	97.0	98.0
Number of cities in each section from which every report was received.....	40	11	7	13	5	4

Retail Prices of Coal in the United States ⁵

THE following table shows the average retail prices of coal on January 15 and July 15, 1913, September 15, 1927, and August 15 and September 15, 1928, for the United States and for each of the cities from which retail food prices have been obtained. The prices quoted are for coal delivered to consumers, but do not include charges for storing the coal in cellar or coal bin where an extra handling is necessary.

In addition to the prices for Pennsylvania anthracite, prices are shown for Colorado, Arkansas, and New Mexico anthracite in those cities where these coals form any considerable portion of the sales for household use.

The prices shown for bituminous coal are averages of prices of the several kinds sold for household use.

TABLE 1.—AVERAGE RETAIL PRICES OF COAL PER TON OF 2,000 POUNDS, FOR HOUSEHOLD USE, ON JANUARY 15 AND JULY 15, 1913, SEPTEMBER 15, 1927, AND AUGUST 15 AND SEPTEMBER 15, 1928

City, and kind of coal	1913		1927	1928	
	Jan. 15	July 15	Sept. 15	Aug. 15	Sept. 15
United States:					
Pennsylvania anthracite—					
Stove—					
Average price.....	\$7.99	\$7.46	\$15.38	\$14.95	\$15.21
Index (1913=100).....	103.4	96.6	199.1	193.5	196.9
Chestnut—					
Average price.....	\$8.15	\$7.68	\$15.03	\$14.76	\$14.93
Index (1913=100).....	103.0	97.0	189.9	186.5	188.7
Bituminous—					
Average price.....	\$5.48	\$5.39	\$9.20	\$8.74	\$8.84
Index (1913=100).....	100.8	99.2	169.3	160.9	162.6
Atlanta, Ga.:—					
Bituminous.....	\$5.88	\$4.83	\$8.35	\$7.43	\$7.63
Baltimore, Md.:—					
Pennsylvania anthracite—					
Stove.....	\$7.70	\$7.24	\$16.00	\$15.25	\$15.75
Chestnut.....	\$7.93	\$7.49	\$15.25	\$14.75	\$15.25
Bituminous.....			8.18	7.82	7.82

* Per ton of 2,240 pounds.

⁵ Prices of coal were formerly secured semiannually and published in the March and September issues of the Labor Review. Since June, 1920, these prices have been secured and published monthly.

TABLE 1.—AVERAGE RETAIL PRICES OF COAL PER TON OF 2,000 POUNDS, FOR HOUSEHOLD USE, ON JANUARY 15 AND JULY 15, 1913, SEPTEMBER 15, 1927, AND AUGUST 15 AND SEPTEMBER 15, 1928—Continued

City, and kind of coal	1913		1927	1928	
	Jan. 15	July 15	Sept. 15	Aug. 15	Sept. 15
Birmingham, Ala:					
Bituminous.....	\$4.22	\$4.01	\$7.49	\$7.00	\$7.38
Boston, Mass.:					
Pennsylvania anthracite—					
Stove.....	8.25	7.50	16.00	15.75	15.75
Chestnut.....	8.25	7.75	15.75	15.50	15.50
Bridgeport, Conn.:					
Pennsylvania anthracite—					
Stove.....			14.50	14.50	15.50
Chestnut.....			14.50	14.50	15.50
Buffalo, N. Y.:					
Pennsylvania anthracite—					
Stove.....	6.75	6.54	13.99	13.65	13.92
Chestnut.....	6.99	6.80	13.59	13.25	13.56
Butte, Mont.:					
Bituminous.....			10.95	10.87	10.92
Charleston, S. C.:					
Bituminous.....	• 6.75	• 6.75	11.00	11.00	11.00
Chicago, Ill.:					
Pennsylvania anthracite—					
Stove.....	8.00	7.80	16.95	16.25	16.50
Chestnut.....	8.25	8.05	16.45	15.95	16.20
Bituminous.....	4.97	4.65	9.32	8.58	8.72
Cincinnati, Ohio:					
Bituminous.....	3.50	3.38	7.08	6.49	6.47
Cleveland, Ohio:					
Pennsylvania anthracite—					
Stove.....	7.50	7.25	15.10	15.15	15.05
Chestnut.....	7.75	7.50	14.70	14.79	14.64
Bituminous.....	4.14	4.14	8.94	8.42	8.44
Columbus, Ohio:					
Bituminous.....			7.21	6.21	6.28
Dallas, Tex.:					
Arkansas anthracite—					
Egg.....			15.17	14.25	15.50
Bituminous.....	8.25	7.21	12.71	12.40	13.08
Denver, Colo.:					
Colorado anthracite—					
Furnace, 1 and 2 mixed.....	8.88	9.00	16.10	15.73	15.75
Stove, 3 and 5 mixed.....	8.50	8.50	16.10	15.73	15.75
Bituminous.....	5.25	4.88	10.25	10.57	10.57
Detroit, Mich.:					
Pennsylvania anthracite—					
Stove.....	8.00	7.45	16.00	15.50	15.90
Chestnut.....	8.25	7.65	15.50	15.00	15.40
Bituminous.....	5.20	5.20	9.38	9.13	8.98
Fall River, Mass.:					
Pennsylvania anthracite—					
Stove.....	8.25	7.43	16.75	16.00	16.50
Chestnut.....	8.25	7.61	16.25	15.75	16.25
Houston, Tex.:					
Bituminous.....			11.80	11.60	11.60
Indianapolis, Ind.:					
Bituminous.....	3.81	3.70	7.26	6.87	6.91
Jacksonville, Fla.:					
Bituminous.....	7.50	7.00	13.00	12.00	12.00
Kansas City, Mo.:					
Arkansas anthracite—					
Furnace.....			14.00	12.50	12.60
Stove No. 4.....			15.17	14.25	14.17
Bituminous.....	4.39	3.94	7.83	7.06	7.13
Little Rock, Ark.:					
Arkansas anthracite—					
Egg.....			13.50	12.50	13.50
Bituminous.....	6.00	5.33	10.15	9.10	9.65
Los Angeles, Calif.:					
Bituminous.....	13.52	12.50	16.25	15.25	15.75
Louisville, Ky.:					
Bituminous.....	4.20	4.00	7.01	6.59	6.78
Manchester, N. H.:					
Pennsylvania anthracite—					
Stove.....	10.00	8.50	16.50	17.00	17.25
Chestnut.....	10.00	8.50	17.25	16.75	17.00
Memphis, Tenn.:					
Bituminous.....	• 4.34	• 4.22	8.30	6.36	6.39

• Per ton of 2,240 pounds.

• Per 10-barrel lot (1,800 pounds).

TABLE 1.—AVERAGE RETAIL PRICES OF COAL PER TON OF 2,000 POUNDS, FOR HOUSEHOLD USE, ON JANUARY 15 AND JULY 15, 1913, SEPTEMBER 15, 1927, AND AUGUST 15 AND SEPTEMBER 15, 1928—Continued

City, and kind of coal	1913		1927	1928	
	Jan. 15	July 15	Sept. 15	Aug. 15	Sept. 15
Milwaukee, Wis.:					
Pennsylvania anthracite—					
Stove.....	\$8.00	\$7.85	\$16.65	\$15.95	\$16.20
Chestnut.....	8.25	8.10	16.20	15.65	15.90
Bituminous.....	6.25	5.71	9.29	9.06	9.11
Minneapolis, Minn.:					
Pennsylvania anthracite—					
Stove.....	9.25	9.05	18.15	17.95	18.20
Chestnut.....	9.50	9.30	17.70	17.65	17.90
Bituminous.....	5.80	5.79	11.66	11.64	11.60
Mobile, Ala.:					
Bituminous.....			9.08	9.46	9.42
Newark, N. J.:					
Pennsylvania anthracite—					
Stove.....	6.50	6.25	14.00	13.75	14.00
Chestnut.....	6.75	6.50	13.50	13.25	13.50
New Haven, Conn.:					
Pennsylvania anthracite—					
Stove.....	7.50	6.25	14.90	14.70	15.00
Chestnut.....	7.50	6.25	14.90	14.70	15.00
New Orleans, La.:					
Bituminous.....	6.06	6.06	9.32	9.21	9.21
New York, N. Y.:					
Pennsylvania anthracite—					
Stove.....	70.7	6.66	14.33	14.50	14.71
Chestnut.....	7.14	6.80	14.04	14.00	14.21
Norfolk, Va.:					
Pennsylvania anthracite—					
Stove.....			15.00	14.00	14.00
Chestnut.....			15.00	14.00	14.00
Bituminous.....			8.80	8.55	8.50
Omaha, Nebr.:					
Bituminous.....	6.63	6.13	10.02	9.38	9.52
Peoria, Ill.:					
Bituminous.....			6.94	6.54	6.68
Philadelphia, Pa.:					
Pennsylvania anthracite—					
Stove.....	7.16	6.89	15.04	13.99	14.25
Chestnut.....	7.38	7.14	14.54	13.71	13.93
Pittsburgh, Pa.:					
Pennsylvania anthracite—					
Chestnut.....	8.00	7.44	15.00	14.50	14.75
Bituminous.....	3.16	3.18	5.76	5.15	5.12
Portland, Me.:					
Pennsylvania anthracite—					
Stove.....			16.74	16.56	16.80
Chestnut.....			16.74	16.56	16.80
Portland, Oreg.:					
Bituminous.....	9.79	9.66	13.64	12.38	12.60
Providence, R. I.:					
Pennsylvania anthracite—					
Stove.....	8.25	7.50	16.25	15.50	16.00
Chestnut.....	8.25	7.75	16.00	15.50	16.00
Richmond, Va.:					
Pennsylvania anthracite—					
Stove.....	8.00	7.25	15.67	14.33	14.33
Chestnut.....	8.00	7.25	15.67	14.33	14.33
Bituminous.....	5.50	4.94	9.77	8.76	8.67
Rochester, N. Y.:					
Pennsylvania anthracite—					
Stove.....			14.60	14.35	14.60
Chestnut.....			14.15	14.00	14.25
St. Louis, Mo.:					
Pennsylvania anthracite—					
Stove.....	8.44	7.74	16.75	16.40	16.65
Chestnut.....	8.68	7.99	16.30	16.15	16.40
Bituminous.....	3.36	3.04	7.57	5.93	6.06
St. Paul, Minn.:					
Pennsylvania anthracite—					
Stove.....	9.20	9.05	18.15	17.95	18.20
Chestnut.....	9.45	9.30	17.70	17.65	17.90
Bituminous.....	6.07	6.04	11.96	11.88	11.85

^a Per ton of 2,240 pounds.

^b Per 10-barrel lot (1,800 pounds).

^c Per 25-bushel lot (1,900 pounds).

^d The average price of coal delivered in bin is 50 cents higher than here shown. Practically all coal is delivered in bin.

TABLE 1.—AVERAGE RETAIL PRICES OF COAL PER TON OF 2,000 POUNDS, FOR HOUSEHOLD USE, ON JANUARY 15 AND JULY 15, 1913, SEPTEMBER 15, 1927, AND AUGUST 15 AND SEPTEMBER 15, 1928—Continued

City, and kind of coal	1913		1927	1928	
	Jan. 15	July 15	Sept. 15	Aug. 15	Sept. 15
Salt Lake City, Utah:					
Colorado anthracite—					
Furnace, 1 and 2 mixed.....	\$11.00	\$11.50	\$18.00	\$18.00	\$18.00
Stove, 3 and 5 mixed.....	11.00	11.50	18.00	18.00	18.00
Bituminous.....	5.64	5.46	8.34	8.48	8.50
San Francisco, Calif.:					
New Mexico anthracite—					
Ce. illos egg.....	17.00	17.00	25.50	25.00	26.00
Colorado anthracite—					
Egg.....	17.00	17.00	25.00	24.50	25.50
Bituminous.....	12.00	12.00	16.63	16.13	17.13
Savannah, Ga.:					
Bituminous.....			• 11.75	• 9.80	• 10.62
Scranton, Pa.:					
Pennsylvania anthracite—					
Stove.....	4.25	4.31	10.75	10.28	10.53
Chestnut.....	4.50	4.56	10.50	10.08	10.33
Seattle, Wash.:					
Bituminous.....	7.63	7.70	9.76	9.55	10.08
Springfield, Ill.:					
Bituminous.....			4.44	4.44	4.44
Washington, D. C.:					
Pennsylvania anthracite—					
Stove.....	• 7.50	• 7.38	• 15.51	• 15.11	• 15.33
Chestnut.....	• 7.65	• 7.53	• 14.99	• 14.74	• 14.96
Bituminous—					
Prepared sizes, low volatile.....			• 11.00	• 10.50	• 10.92
Prepared sizes, high volatile.....			• 9.00	• 8.63	• 8.63
Run of mine, mixed.....			• 7.88	• 7.60	• 7.60

• Per ton of 2,240 pounds.

• All coal sold in Savannah is weighed by the city. A charge of 10 cents per ton or half ton is made. This additional charge has been included in the above price.

Index Number of Wholesale Prices in September, 1928.

CONTINUED upward movement of wholesale prices is shown for September by information collected in representative markets by the Bureau of Labor Statistics of the United States Department of Labor. The bureau's weighted index number, computed on prices in the year 1926 as the base, and including 550 commodities or price series, stands at 100.1 for September compared with 98.9 for August, an increase of nearly $1\frac{1}{4}$ per cent. Compared with September, 1927, with an index number of 96.5, an increase of nearly $3\frac{3}{4}$ per cent is shown.

Among farm products, grains advanced appreciably in price, while livestock and poultry showed a still larger increase. The group as a whole averaged over $1\frac{1}{2}$ per cent higher than in the preceding month. Foods also increased in average prices, due to the continued upward movement of butter, eggs, fresh and cured meats, and potatoes. Flour and sugar prices were slightly above those of August.

Hides and skins increased to some extent in price, while leather and its products showed little change. Cotton goods and woolen and worsted goods exhibited a downward tendency in the month, while raw silk advanced. Anthracite and bituminous coal and most petroleum products increased in price, while metals and metal products showed little variation from the August figures.

Building materials also showed little change in the general price level, lumber advancing and cement and paint materials declining,

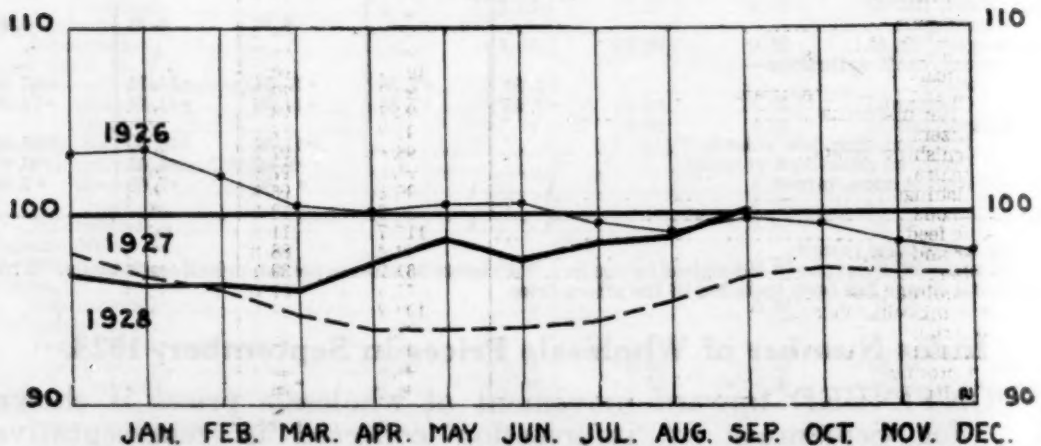
with structural steel remaining at the August price level. A slight increase is shown for the group of chemicals and drugs. House-furnishing goods remained at the August level, while the group of miscellaneous commodities advanced slightly, due to sharp increases in prices of cattle feed.

Of the 550 commodities or price series for which comparable information for August and September was collected, increases were shown in 169 instances and decreases in 100 instances. In 281 instances no change in price was reported.

Comparing prices in September with those of a year ago, as measured by changes in the index numbers, it is seen that foods and hides and leather products were considerably higher, while farm products, fuels, metals and metal products, and building materials were somewhat higher. Small decreases between the two periods took place among textile products, chemicals and drugs, and house-furnishing goods, and a considerable decrease among articles classed as miscellaneous.

TREND OF WHOLESALE PRICES

[1926=100]



INDEX NUMBERS OF WHOLESALE PRICES BY GROUPS AND SUBGROUPS OF COMMODITIES

[1926=100.0]

Groups and subgroups	1927, Sep- tember	1928, Au- gust	1928, Sep- tember	Purchas- ing power of the 1926 dollar in September, 1928 (cents)
All commodities.....	96.5	98.9	100.1	99.9
Farm products.....	105.9	107.0	108.8	91.9
Grains.....	102.9	95.4	97.5	102.6
Livestock and poultry.....	104.9	116.7	124.0	80.6
Other farm products.....	107.6	104.2	102.3	97.8
Foods.....	96.5	104.1	106.9	93.5
Butter, cheese, and milk.....	105.6	107.3	109.3	91.5
Meats.....	92.2	119.3	126.5	79.1
Other foods.....	95.8	93.5	94.0	106.4
Hides and leather products.....	112.5	121.0	120.7	82.9
Hides and skins.....	128.4	140.6	141.9	70.5
Leather.....	115.4	128.5	126.2	79.2
Boots and shoes.....	105.6	110.8	110.8	90.3
Other leather products.....	104.9	108.6	109.0	91.7
Textile products.....	98.5	96.3	95.6	104.6
Cotton goods.....	106.1	101.4	100.1	99.9
Silk and rayon.....	86.6	81.7	82.7	120.9
Woolen and worsted goods.....	97.3	101.0	100.1	99.9
Other textile products.....	95.9	89.1	86.5	115.6

[1062]

INDEX NUMBERS OF WHOLESALE PRICES BY GROUPS AND SUBGROUPS OF
COMMODITIES—Continued

[1926=100.0]

Groups and subgroups	1927, Sep- tember	1928, Au- gust	1928, Sep- tember	Purchas- ing power of the 1926 dollar in September, 1928 (cents)
Fuel and lighting	84.2	84.6	85.1	117.5
Anthracite coal	96.5	90.3	91.2	109.6
Bituminous coal	102.4	92.5	93.2	107.3
Coke	94.0	84.9	84.9	117.8
Manufactured gas	98.2	95.0	(1)	
Petroleum products	66.4	76.8	77.1	129.7
Metals and metal products	97.6	100.4	100.5	99.5
Iron and steel	94.7	94.5	94.7	105.6
Nonferrous metals	90.7	92.9	93.8	106.6
Agricultural implements	99.3	98.8	98.8	101.2
Automobiles	102.2	108.9	108.7	92.0
Other metal products	100.7	96.9	96.9	103.2
Building materials	92.1	94.6	94.7	105.6
Lumber	91.0	90.3	91.3	109.5
Brick	93.2	92.6	92.4	108.2
Cement	96.5	96.5	94.6	105.7
Structural steel	93.2	94.5	94.5	105.8
Paint materials	90.0	88.2	85.8	116.6
Other building materials	91.9	104.4	104.2	96.0
Chemicals and drugs	96.4	94.7	95.1	105.2
Chemicals	101.4	100.5	101.1	98.9
Drugs and pharmaceuticals	86.7	70.3	70.1	142.7
Fertilizer materials	92.1	93.4	93.5	107.0
Fertilizers	91.7	97.4	97.5	102.6
House-furnishing goods	98.6	97.2	97.2	102.9
Furniture	97.6	97.6	97.5	102.6
Furnishings	99.3	96.9	97.0	103.1
Miscellaneous	89.2	79.3	79.7	125.5
Cattle feed	117.7	111.5	121.1	82.6
Paper and pulp	92.4	88.8	88.8	112.6
Rubber	69.2	39.7	38.1	262.5
Automobile tires	77.4	61.6	61.6	162.3
Other miscellaneous	100.2	98.1	98.0	102.0
Raw materials	99.9	99.2	100.5	99.5
Semimanufactured articles	98.6	97.3	96.9	103.2
Finished products	94.0	99.1	100.5	99.5
Nonagricultural commodities	94.0	96.7	97.8	102.2

¹ Data not yet available.

Revised Index Numbers of Wholesale Prices, 1890 to 1927

IN THE October, 1927, issue of the Labor Review there were presented revised index numbers of wholesale prices for the period from January, 1923, to August, 1927, inclusive. It was there explained that the revision consisted of (1) a shift of the price base from 1913 to the last completed year, 1926, and (2) the substitution of more recent weighting factors for those formerly employed. In addition, the number of commodities or price series was increased from 404 to 550 and certain rearrangement of the commodity groups was made.

Additional details of the revision were published in the December, 1927, and the January and March, 1928, issues of the Labor Review. In the July, 1928, issue there was given a table containing revised data for all months from January, 1913, to May, 1928, inclusive.

In view of the demand for comparable information for years prior to 1913 the revision has now been extended by years back to 1890, the earliest year for which wholesale prices were collected by the bureau. Index numbers for all years from 1890 to 1927 are contained

in the table which follows. While the results here published for years prior to 1913 are necessarily based on a smaller list of commodities than are the results for years since 1913, they may be considered comparable for all practical purposes.

INDEX NUMBERS OF WHOLESALE PRICES, BY YEARS, 1890 TO 1927

[1926=100]

Year	Farm products	Foods	Hides and leather products	Textile products	Fuel and lighting	Metals and metal products	Building materials	Chemicals and drugs	House furnishing goods	Miscellaneous	All commodities
1890	50.4	55.5	47.5	57.8	38.1	105.3	46.5	73.2	49.9	97.9	56.2
1891	54.2	54.8	47.9	54.6	37.0	92.2	44.2	74.0	50.4	94.3	55.8
1892	49.5	51.0	47.2	55.2	34.8	84.0	41.7	74.6	48.1	86.6	52.2
1893	51.3	54.7	45.1	54.1	35.3	76.8	41.6	72.7	48.1	89.0	53.4
1894	44.6	48.2	43.0	46.1	34.3	65.7	39.8	65.5	45.3	86.4	47.9
1895	43.9	47.3	49.4	44.3	40.3	70.4	38.8	64.7	43.5	88.9	48.8
1896	39.6	44.1	45.2	43.1	39.5	71.2	38.9	65.0	43.4	90.2	46.5
1897	42.5	45.5	45.9	42.9	33.9	65.0	37.4	70.9	42.5	92.5	46.6
1898	44.9	47.8	48.3	44.9	34.5	65.3	39.6	77.4	44.0	93.4	48.5
1899	45.8	47.7	49.4	47.7	41.2	100.0	43.6	81.1	45.0	97.4	52.2
1900	50.5	50.8	49.4	53.3	46.3	98.0	46.2	82.1	48.9	102.0	56.1
1901	52.8	50.5	48.9	48.1	44.6	93.1	44.3	84.2	48.9	93.4	55.3
1902	58.4	53.3	50.8	49.4	51.8	91.0	45.3	86.5	49.2	88.1	58.9
1903	55.6	52.0	49.9	52.8	60.3	90.2	46.7	84.1	50.9	98.9	59.6
1904	58.5	54.0	49.7	52.9	53.3	79.9	45.0	84.1	50.3	109.5	59.7
1905	56.4	55.1	53.9	54.1	49.6	89.1	48.1	82.3	49.7	117.4	60.1
1906	57.3	53.4	57.7	58.7	52.0	102.4	54.0	78.8	51.3	115.3	61.8
1907	62.2	57.0	58.0	63.5	54.4	109.8	56.8	78.5	55.0	108.2	65.2
1908	62.2	58.7	55.6	54.8	53.7	86.3	52.0	79.6	51.6	97.8	62.9
1909	69.6	62.6	61.5	56.5	51.6	84.5	53.7	79.9	51.7	129.6	67.6
1910	74.3	64.9	60.2	58.4	47.6	85.2	55.3	82.0	54.0	152.7	70.4
1911	66.8	62.0	58.8	55.5	46.7	80.8	55.3	81.6	52.7	108.6	64.9
1912	72.6	66.8	64.5	55.7	51.4	89.5	55.9	80.7	53.0	106.4	69.1
1913	71.5	64.2	68.1	57.3	61.3	90.8	56.7	80.2	56.3	93.1	69.8
1914	71.2	64.7	70.9	54.6	56.6	80.2	52.7	81.4	56.8	89.9	68.1
1915	71.5	65.4	75.5	54.1	51.8	86.3	53.5	112.0	56.0	86.9	69.5
1916	84.4	75.7	93.4	70.4	74.3	116.5	67.6	160.7	61.4	100.6	85.5
1917	129.0	104.5	123.8	98.7	105.4	150.6	88.2	165.0	74.2	122.1	117.5
1918	148.0	119.1	125.7	137.2	109.2	136.5	98.6	182.3	93.3	134.4	131.3
1919	157.6	129.5	174.1	135.3	104.3	130.9	115.6	157.0	105.9	139.1	138.6
1920	150.7	137.4	171.3	164.8	163.7	149.4	150.1	164.7	141.8	167.5	154.4
1921	88.4	90.6	109.2	94.5	96.8	117.5	97.4	115.0	113.0	109.2	97.6
1922	93.8	87.6	104.6	100.2	107.3	102.9	97.3	100.3	103.5	92.8	96.7
1923	98.6	92.7	104.2	111.3	97.3	109.3	108.7	101.1	108.9	99.7	100.6
1924	100.0	91.0	101.5	106.7	92.0	106.3	102.3	98.9	104.9	93.6	98.1
1925	109.8	100.2	105.3	108.3	96.5	103.2	101.7	101.8	103.1	109.0	103.5
1926	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1927	99.4	96.5	107.9	95.7	86.5	98.2	93.3	96.6	98.2	59.9	95.4

LABOR AWARDS AND DECISIONS

Awards and Decisions

Railroad Telegraphers—Midland Valley Railroad Co. and Kansas, Oklahoma, & Gulf Railway Co.

AN ARBITRATION award dated September 27, 1928, was handed down by a board consisting of L. M. Eddy, appointed by the Order of Railroad Telegraphers; T. H. Niles, appointed by the carriers; and R. L. Williams, United States district judge, acting as chairman.

In the course of an opinion signed by a majority of the board the following statements were made:

All three of the arbitrators have agreed that the burden is on the applicants to show that the existing wages are too low and that they should be increased.

The existing rates of pay were established by the United States Railroad Labor Board in a decision issued June 1, 1921, effective July 1, 1921.

No contention is made that the cost of living is now greater than it was in 1921, when the present wages were established. * * * In addition it is in evidence that the carriers have provided means of group life insurance and group health and accident insurance, of some value to its employees.

It is further in evidence that increases in wages have been granted by other roads or carriers, but such roads are not comparable as to mileage, location, or condition. The evidence discloses as to roads in the southwestern region that are comparable in mileage, location, and condition, wages paid for the same character of work are below the present existing scale paid by the herein carriers.

We have carefully examined into the income and the earnings and the financial condition of the carriers and do not believe that it would justify an increase, but at the suggestion of the chairman of this board of arbitration the representative of the carriers has consented to an increase of 1 cent per hour to be applied to each position on the two roads involved herein, and that will be the award in this case.

The new rates of pay for employees provided by this award shall become effective September 1, 1928, and continue in force for the period of one year from such effective date, and thereafter subject to 30 days' notice by or to the carriers.

The representative of the employees filed a dissenting opinion, from which the following paragraphs are taken.

Believing that the findings of the majority of the board as are set out in the award are unsupported by the evidence and that the increase awarded is inadequate for the reasons hereinafter set forth, I find it necessary to dissent therefrom.

The evidence submitted in this hearing discloses that rates of pay of the classes affected by this award on 98 per cent of the railroad mileage of the United States is to-day over 5 cents per hour average higher than the rates so established in 1921. It also discloses that the United States Railroad Labor Board did, through subsequent decisions, authorize rates in excess of the rates established in 1921.

That this carrier has granted increases to its train and engine service employees in excess of 3 cents per hour average above the rates established by the United States Railroad Labor Board in 1921.

The evidence also discloses the fact that the number of employees involved herein has been reduced 33⅓ per cent since 1921. That 62 employees are to-day handling the business of this carrier while in 1921 93 employees were required. This indicates increased efficiency and deserves consideration.

The increase in the operating revenue and the improved conditions of earnings, to which the increase in efficiency of the employees is a direct contribution, together with evidence disclosing the relation of rates of pay of these employees to-day as compared with the rates established by the United States Railroad Labor Board in 1921 on other railroads representing the greater part of the entire railroad mileage in the United States, does, in my opinion, furnish sufficient justification for like treatment to the employees of this carrier.

IMMIGRATION AND EMIGRATION

Statistics of Immigration For August, 1928

By J. J. KUNNA, CHIEF STATISTICIAN UNITED STATES BUREAU OF IMMIGRATION

A TOTAL of 43,249 aliens entered the United States in August, 1928; the immigrant class, newcomers for permanent residence in this country, numbered 24,629, the remaining 18,620 being tourists or other temporary visitors. During the same month 22,448 aliens left the United States, 15,960 of whom were of the visiting class or nonemigrants and 6,488 were emigrants leaving to make their homes abroad again. American citizens returning to and departing from the United States in August totaled 63,191 and 50,323, respectively. Compared with the preceding month the inward passenger movement showed an increase and the outward a decrease. In July, last, 69,632 persons entered the country and 96,516 left for foreign countries as against 106,440 entering and 72,771 departing in August, 1928.

The principal races contributing immigrant aliens in August, 1928, were the Mexican (5,472), German (3,557), English (2,525), Irish (2,460), French (1,669), Scotch (1,649), Italian (1,642), and Scandinavians (Norwegians, Danes, and Swedes) (1,499). These eight races supplied 83.1 per cent of the total for the month.

There was an increase in immigration from both Canada and Mexico as compared with the preceding month. In August last, 6,104 immigrants were recorded as coming from Canada and 5,557 from Mexico, while during July last, 5,234 immigrants came from Canada and 4,927 from Mexico. European immigration also increased, 11,445 immigrant aliens having been admitted from countries on that continent as against 9,130 in July, 1928.

Over 61 per cent (26,400) of the 43,249 aliens of all classes admitted during August, 1928, were born in European countries, mainly Great Britain, Germany, Italy, and the Irish Free State; 14,512 gave countries in the Western Hemisphere as their place of birth, principally Canada and Mexico; 1,631 were born in Asia; 130 in Africa; and 576 in Australia, New Zealand, and the Pacific Islands.

A total of 1,412 (956 male and 456 female) aliens were debarred from entering the United States this month, only 192 having been rejected at the seaports of entry, while 1,220 were turned back at the international land border. The major portion, or 93.5 per cent of the total, were refused admission for failure to present proper immigration visas under the immigration act of 1924, as amended, 1,320 aliens having been debarred for this reason. In August last, 1,186 aliens were deported from the United States under warrant proceedings for various causes under the immigration laws.

INWARD AND OUTWARD PASSENGER MOVEMENT DURING THE FISCAL YEAR ENDED JUNE 30, 1928, AND DURING THE MONTHS OF JULY AND AUGUST, 1928

Period	Inward					Aliens de- barred from enter- ¹	Outward					Aliens de- ported after land- ²
	Aliens admitted			United States citizens arrived	Total		Aliens departed			United States citizens departed	Total	
	Immi- grant	Non- immi- grant	Total				Emi- grant	Non- emi- grant	Total			
Fiscal year end- ed June 30, 1928-----	307, 255	193, 376	500, 631	430, 955	931, 586	18, 839	77, 457	196, 899	274, 356	420, 575	703, 931	11, 625
July, 1928-----	20, 682	15, 976	36, 658	32, 974	69, 632	1, 286	7, 804	20, 249	28, 053	68, 463	96, 516	768
August, 1928----	24, 629	18, 620	43, 249	63, 191	106, 440	1, 412	6, 488	15, 960	22, 448	50, 323	72, 771	1, 186

¹ These aliens are not included among arrivals, as they were not permitted to enter the United States.

² These aliens are included among aliens departed, they having entered the United States, legally or illegally, and later being deported.

PUBLICATIONS RELATING TO LABOR

Official—United States

NEW YORK.—Department of Labor. *Special bulletin No. 157: Compensation statistics, year ended June 30, 1927.* Albany, 1928. 56 pp.

A summary of this report is given on page 79 of this issue.

OHIO.—Department of Industrial Relations. *Sixth annual report, including the annual report of the Industrial Commission of Ohio, for the fiscal year July 1, 1926, to June 30, 1927.* Columbus, 1927. 44 pp.

Data on occupational diseases from this report are given on page 79 of this issue.

PENNSYLVANIA.—Department of Labor and Industry. *A good chair for the industrial worker, by Elizabeth S. Johnson, Bureau of Women and Children.* Harrisburgh, 1928. 7 pp.; diagram. (Reprint from *Labor and Industry*, August, 1928.)

Reviewed on page 63 of this issue.

— *Special bulletin No. 19: Proceedings of the Pennsylvania Safety Congress, March 21, 22, 23, 1928.* Harrisburg, 1928. 371 pp.

SOUTH CAROLINA.—Department of Agriculture, Commerce, and Industries. *Yearbook, 1927.* Columbia [1928], 164 pp.; map.

One section of the yearbook covers the activities of the labor division of the department.

UNITED STATES.—Congress. Senate. Committee on Interstate Commerce. *Conditions in the coal fields of Pennsylvania, West Virginia, and Ohio. Hearings pursuant to S. Res. 105.* Washington, 1928. 2 vols. (70th Cong., 1st sess.)

— Department of Commerce. Bureau of Mines. *Technical paper 430: Accidents at metallurgical works in the United States during the calendar year 1926, by William W. Adams.* Washington, 1928. 36 pp.

Reviewed on page 56 of this issue.

— Department of Labor. Bureau of Labor Statistics. *Bulletin No. 478: Proceedings of the fifteenth annual meeting of the International Association of Public Employment Services, held at Detroit, Mich., October 25-28, 1927.* Washington, 1928. 36 pp.

— *Bulletin No. 479: Activities and functions of a State department of labor.* Washington, 1928. 159 pp.

Reviewed on page 31 of this issue.

— Children's Bureau. *The Children's Bureau—what it is, what it has done, and what it is doing for the children of the United States.* Washington [1928?]. 14 pp.

Official—Foreign Countries

AUSTRALIA (SOUTH AUSTRALIA).—[Statistical Office.] *Statistical register, 1926-27.* Adelaide, 1928. [Various paging.]

Includes data relating to accidents, wages, and wholesale prices.

AUSTRIA.—Kammer für Arbeiter und Angestellte in Wien. *Wirtschaftsstatistisches Jahrbuch, 1927.* Vienna, 1928. 556 pp.; charts.

Contains comprehensive statistical data for Austria on labor and industrial subjects.

BELGIUM.—Ministère de l'Intérieur et de l'Hygiène. *Annuaire statistique de la Belgique et du Congo belge, 1925-26. Tome LI.* Brussels, Imprimerie Lesigne, 1928. [Various paging.]

This annual report for Belgium and the Belgian Congo for 1925-26 includes in the statistics relating to industry data relative to vocational education, industrial accidents, and strikes and lockouts.

CEYLON.—Department of Statistics and Office Systems. *The Ceylon blue book, 1927.* Colombo, 1928. [Various paging.]

Includes data on cooperative societies, production, labor, wages, and prices of foodstuffs, etc.

DENMARK.—Statistiske Departement. *Statistisk aarbog, 1928.* Copenhagen, 1928. xxv, 253 pp.

Most of the statistics contained in this statistical yearbook are for 1927 and earlier years, although certain figures are given for January, 1928. Data are included on prices and cost of living; wages; strikes and lockouts; social insurance; workmen's compensation; and unemployment.

GREAT BRITAIN.—Industrial Fatigue Research Board. *Report No. 51: A study of absenteeism in a group of 10 collieries, by H. M. Vernon and T. Bedford.* London, 1928. 62 pp.; diagrams.

The absences due to sickness, accident, and voluntary causes among 23,000 miners are analyzed in this report. It was found that the depth of the workings and the temperature were factors in absenteeism both from sickness and accidents.

— Mines Department. Safety in Mines Research Board. *Paper No. 43: Spontaneous electrification in dust clouds (with special reference to coal dust clouds), by S. C. Blacktin.* London, 1928. 19 pp.; diagrams, illus.

This study was made to determine whether the spontaneous electrification of a coal-dust cloud can give rise to dangerous electric sparking such as might ignite gas or dust. It was shown that sparks may be obtained from charges of electricity generated in coal-dust clouds raised by a current of air, although this was dependent upon certain conditions such as the fineness of the dust, the speed of the air current, etc.

— Ministry of Labor. *Report on the work of advisory committees for juvenile employment during the year 1927.* London, 1928. 41 pp.

A summary of this report is given on page 53 of this issue.

— Bristol Advisory Committee for Juvenile Employment. *Report for the year 1927.* London, 1928. 32 pp.

— City of Sheffield Advisory Committee for Juvenile Employment. *Report for the year 1927.* London, 1928. 18 pp.

— Glasgow Advisory Council for Juvenile Employment. *Report for the year 1927.* London, 1928. 23 pp.

INDIA (BURMA).—[Chief Inspector of Factories.] *Annual report on the working of the Indian factories act, 1911, in Burma for the year 1927.* Rangoon, 1928. 58 pp.

Data from this report are given on page 37 of this issue.

INTERNATIONAL LABOR OFFICE.—*Studies and reports, series N (statistics), No. 13: Methods of compiling housing statistics.* Geneva, 1928. 119 pp.

NORWAY.—Statistiske Centralbyrå. *Arbeidslønnen i jordbruket, driftsåret, 1927-1928.* Oslo, 1928. 15 pp. (Norges offisielle statistikk, VIII, 93.)

Salaries of agricultural workers in 1927-28.

POLAND.—Ministère du Travail et de l'Assistance sociale. *L'Inspection du travail en 1926.* Warsaw, 1928. cxi, 356 pp. (In Polish and French.)

The greater part of this report on labor inspection is in Polish. The subjects treated in French include the following: Protective labor legislation in 1926,

the economic situation of the country, and functions exercised by the central organizations of labor inspection in the year under review.

RUMANIA.—Ministerul Industriei și Comerțului. Institutul de Statistica Generală a Statului. *Statistica prețurilor și indicele costului vieții în anul 1927. Bucharest, 1928. 119 pp. (In Rumanian and French.)*

Gives price statistics for 1927, including a cost of living index computed for 50 towns, 1913 being used as the base year.

SWEDEN.—Socialdepartementet. Socialstyrelsen. *Arbetslöshetsräkningen och de lokala arbetslöshetsundersökningarna i Sverige, år 1927. Stockholm, 1928. xiv, 208 pp. (Table of contents and résumé in French.)*

A summary of the results of this comprehensive investigation of unemployment in Sweden is given on page 165 of this issue.

— *Statistiska Centralbyrån. Statistisk årsbok för Sverige, 1928. Stockholm, 1928. 397 pp.*

This statistical yearbook for Sweden, issued by the Central Statistical Bureau, includes data on prices and cost of living, wages, unemployment, strikes and lockouts, collective agreements, production in mining and other industries, and cooperative societies. Some of the figures are for the year 1928 but most of them are for 1926 or 1927 and earlier years.

SWITZERLAND.—Caisse Nationale Suisse d'Assurance en Cas d'Accidents. *Rapport annuel et comptes pour l'exercice 1927. [Berne, 1928?] 42 pp.*

The report of the Swiss national accident insurance fund for the year 1927.

Unofficial

ADAM, HUGH GRANT. *An Australian looks at America. London, George Allen & Unwin (Ltd.), 1928. 118 pp.*

Reviewed on page 35 of this issue.

AMERICAN FEDERATION OF LABOR. *Research series No. 6: Wages in manufacturing industries, 1899 to 1927. Washington, 1928. 75 pp.*

Includes data on wages in the manufacturing industry as a whole; cost of wages to the manufacturer; wages in individual industries; and wages of low-paid and high-paid wage earners.

AMERICAN MANAGEMENT ASSOCIATION. *Production executives' series No. 68: Foreman training methods—an appraisal and historical review, by J. A. Randall and C. C. Thomason. New York, 20 Vesey Street, 1928. 11 pp.*

Traces briefly the history and trend of foremanship training in the United States.

AMERICAN VOCATIONAL ASSOCIATION. *Bulletin No. 1: Adult education. A special report adopted by the American Vocational Association at its annual convention in Los Angeles, Calif., December, 1927. Minneapolis, 1928. 70 pp.*

A preliminary report outlining some of the outstanding features and issues of the adult education problem and making recommendations on that subject.

— *Bulletin No. 2: Proceedings of the second annual convention, Los Angeles, Calif., December 17, 19, 20, 1927. Indianapolis, 1928. 195 pp.*

Some of the addresses made at this meeting were referred to in the April, 1928, number of the Labor Review (pp. 88-90). Two other contributions to the convention are summarized on pages 99 and 103 of this issue.

CARNEGIE ENDOWMENT FOR INTERNATIONAL PEACE. Division of Economics and History. *Le mouvement syndical durant la guerre, par Roger Picard. New Haven, Yale University Press, 1927. 306 pp. (Histoire économique et sociale de la guerre mondiale, série française.)*

This historical account of the effects of the World War on the French trade-union movement shows the extent of organization, and the strength of the labor

unions and their attitude toward the other social classes at the outbreak of the war. The rôle played by the labor unions during the war was that of loyal cooperation with the collective effort of the nation while at the same time the pacifist program and the ideal of a social revolution was maintained. The effects, however, of the events of the war within the trade-union movement itself were a series of disagreements over the aims and methods of action of the workers, which finally led to the secession of a minority group from the main organization. The writer considers that the rupture between these two elements in the trade-union organizations was the most unfortunate thing which could have happened to the French labor movement.

CAVANAUGH, FRANCIS P. *Immigration restriction at work to-day*. Washington, 1928. 116 pp.

A study of present administration of restrictive immigration legislation in the United States, especially of the 1924 quota act.

CHAUVEAU, C. *Loi sur les assurances sociales—commentaire juridique, financier et administratif*. Paris, Librairie Générale de Droit et de Jurisprudence, 1928. 1,253 pp.

A commentary on the French social insurance law from the juridical, financial, and social standpoints by the senator who was reporter of the law in Parliament. A digest of this law was given in the Labor Review, May, 1928 (p. 79-90).

CONFERENCE ON INDUSTRIAL REORGANIZATION AND INDUSTRIAL RELATIONS (ENGLAND). *Interim joint report adopted by the full joint conference on July 4, 1928*. London, 1928. 14 pp.

Full text of the report agreed upon by the representative employers, and members of the Trades Unions Congress, forming the conference, of which a summary was given in the Labor Review for September (p. 53).

ESTEY, J. A. *The labor problem*. New York, McGraw-Hill Book Co. (Inc.), 1928. 378 pp.

As set forth in the preface, "the purpose of the present volume is not so much a detailed study of the grievances of labor as an analysis and evaluation of those different attempts to modify the traditional economic relations of an individualistic society that have been forced upon us by the disabilities of wage earners in the modern industrial system."

FINER, HERMAN. *The British civil service*. London, Fabian Society, and George Allen & Union (Ltd.), 1927. 96 pp.

A survey of the English civil service, dealing with its development, present organization, methods of recruitment, personnel, promotion and payment, pensions, relations between the public and the service, and between the House of Commons and the service, the civic rights of civil servants, Whitley councils, and similar features. It was originally prepared for use in France, and the author explains that on this account it contains many elementary facts that English people are supposed to know; naturally, this makes it of special value for other non-English peoples.

FRANCE, WALTER F. *Industrialism in Japan*. London, Society for the Propagation of the Gospel in Foreign Parts, 1928. 71 pp.

An endeavor to show that Japan's industrial problem is fundamentally religious.

GIDE, CHARLES. *La coopération dans les pays Latins—Amérique Latine, Italie, Espagne, Roumanie*. Paris, Association pour l'Enseignement de la Coopération [1928?]. 286 pp.

Data from this book, the subject matter of which is a reproduction of Professor Gide's lectures in his course on consumers' cooperation at the College of France, are given on page 93 of this issue.

HARADA, SHUICHI. *Labor conditions in Japan*. New York [Faculty of Political Science, Columbia University], 1928. 295 pp.

In Part I of this volume present day economic conditions of Japan are described and analyzed, including the shortage of raw materials, the inadequacy of industrial capital, the dependence on foreign markets, agrarian unrest, and overpopulation. In Part II general labor conditions are reviewed, including such subjects as child labor, women in industry, labor turnover, unemployment, wages, cost of living, hours of labor, labor organizations, strikes and lockouts and labor legislation.

INTERNATIONAL UNION OF FOOD AND DRINK WORKERS. Secretariat. *The wages of the food and drink workers in the different countries on August 1, 1927*. Zurich [1928?]. 19 pp.

JAPAN YEAR BOOK, 1928. Tokyo, Japan Year Book office, 1928. [Various paging, Maps.

Complete encyclopedia of general information and statistics on Japan and Japanese territories for the year 1928. One of the chapters deals with labor.

LOMBOIS, MARCEL. *La loi du 24 Juin 1919 sur la durée du travail dans les mines—ses conséquences économiques, sociales et financières*. Lille, Librairie Marquand, 1926. 276 pp.

The author outlines the evolution of the legal regulation of hours of labor in French mines and discusses the economic, social, and financial effects of the law of June 24, 1919, establishing the 8-hour day.

METROPOLITAN LIFE INSURANCE CO. Policyholders Service Bureau. *Labor turnover series 3: The foreman and labor turnover*. New York [1928?]. 15 pp.

This leaflet, the purpose of which is "to show how foremen can aid in the control of labor turnover and how their interest in such a program can be maintained," embodies information on the experience of 42 manufacturing companies.

MEYER, MARTA. *Enquête sur le travail de nuit et la famille*. Neuchâtel, Editions Victor Attinger, 1927. 20 pp. (*Études de législation sociale suisse*, No. 6.)

A study of the effects of night work upon the family life.

NATIONAL INDUSTRIAL CONFERENCE BOARD (INC.). *The work of the International Labor Organization*. New York, 247 Park Avenue, 1928. 197 pp.

The aim of this report is to give a review of all proposals which have been made by the International Labor Organization for the betterment of labor conditions with a discussion of the obstacles in the way of the adoption of internationally uniform labor standards. The several chapters cover the structure of the International Labor Organization; labor problems in industry and commerce; marriage and migration problems; and labor problems in agriculture.

PALESTINE ECONOMIC CORPORATION (INC.). *First annual report, for the period February 15, 1926, to December 31, 1926*. New York, 40 Exchange Place [1927?]. 46 pp.; charts, illus.

The Palestine Economic Corporation was the result of the amalgamation of two agencies interested in the economic development of Palestine. These were the reconstruction committee of the Joint Distribution Committee and the Palestine Cooperative Co. (Inc.). The present report contains data concerning the various types of cooperative societies in Palestine.

PERSONNEL RESEARCH FEDERATION. *Reprint and circular series No. 13: The personal interview—an annotated bibliography, prepared by Bruce V. Moore*. New York, 40 West 40th Street, 1928. 23 pp.

Said to be "the first step in an intensive investigation [by the Personnel Research Federation] of the interview as a technique of fact-finding in industrial relation investigations.

PHILADELPHIA HOUSING ASSOCIATION. *Housing in Philadelphia, 1927. Annual report. Philadelphia, 311 South Juniper Street [1928?]. 43 pp.; map, illus.*

PICARD, ROGER. *Les assurances sociales—commentaire de la loi du 5 Avril 1928. Paris, Librairie des Juris-Classeur-Editions Godde, 1928. 153 pp.*

A commentary on the French social insurance law which was enacted March 14, 1928, and published in the Journal Officiel on April 5, 1928.

RAMEAU, MARCEL. *De la condition sociale des femmes au temps présent. Asnières Editions de la "Revue des Indépendants, 1927." 157 pp.*

A study of economic and social conditions of working women in various countries at the present time.

SCHIAVO, GIOVANNI E. *The Italians in Chicago: A study in Americanization. Chicago, Italian-American Publishing Co., 1928. 207 pp., illus.*

Among the subjects treated are the historical and cultural background of the Italian immigrant; the social background of the Italian districts of Chicago; housing conditions, standard of living, occupations, social organizations, educational activities; and the Italians in the labor unions.

Tso, S. K. SHELDON. *The labor movement in China. Shanghai, 1928. 230 pp.*

Among the subjects discussed in this volume are: Labor's influence on nationalism and imperialism, present labor conditions, the unionization of labor, and strikes. It is suggested by the author that China could profit greatly by a study of the new cooperative trend of unionism in the United States.

WARSHOW, H. T., Editor. *Representative industries in the United States. New York, Henry Holt & Co., 1928. 702 pp.; charts, illus.*

A collection of articles by officials of individual firms, or by technical experts. In addition to general information there are discussions of the labor problems of the various industries treated, which include the following: Aluminum, automobile, banking, chemical, construction, copper, cotton, electric, iron and steel, lead mining and smelting, blue lead and mixed metals, leather, meat-packing, lumber, paint, petroleum, railway equipment, rubber, water power, wool, and zinc.

WOOFER, T. J., JR., AND PRIEST, MADGE HEADLEY. *Negro housing in Philadelphia. Philadelphia, Philadelphia Housing Association, etc., 1927. 30 pp.; maps.*

